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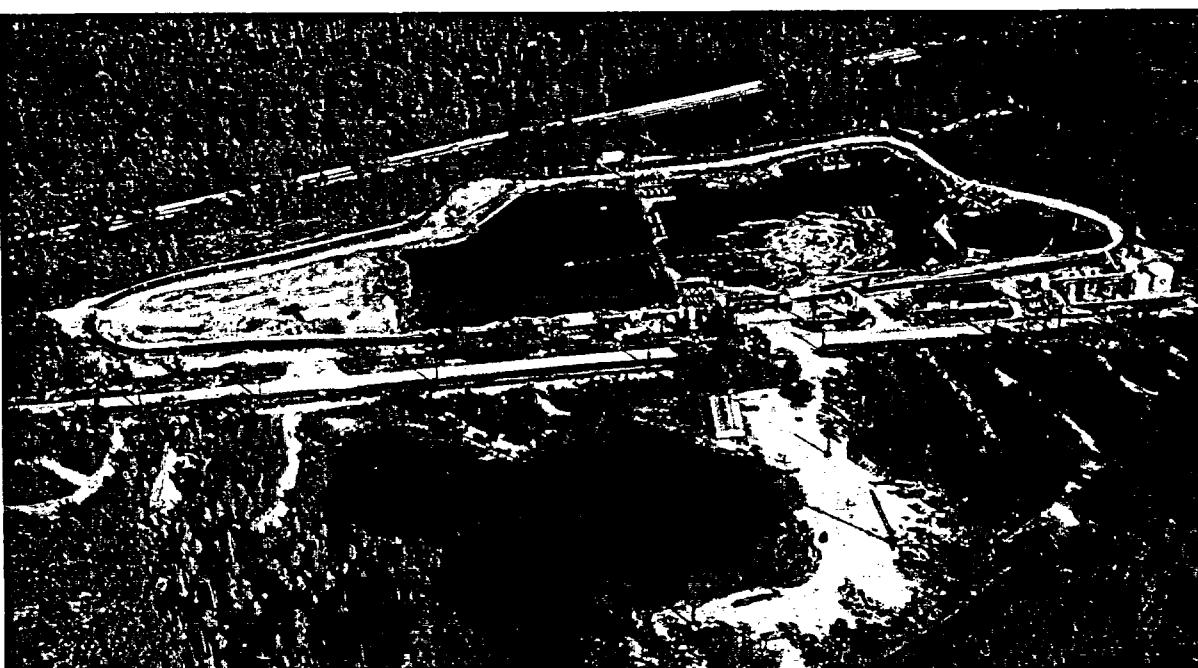
French Ltd. Project



FLTG, Inc.

Crosby, Texas

MONTHLY PROGRESS REPORT



Submitted to:

**U.S. Environmental Protection Agency - Region 6
and
Texas Natural Resource Conservation Commission**

February, 1995

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FLTG, Incorporated

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- 5A Pilot Tests
- 7A Analytical Results of Double Blind Spike Samples
- 8A Repository Status Report: February, 1995

LIST OF APPENDICES

Appendix A - None

Appendix B - None

Appendix C - Analytical Results -

Samples Dated February, 1995

<u>Project I.D.</u>	<u>Date Received</u>	<u>Project I.D.</u>	<u>Date Received</u>
M06B0067	2/01/95	M03A0302	2/13/95
M06C0022	2/01/95	M03A0304	2/14/95
M03A0299	2/02/95	S14C0005	2/14/95
M03A0300	2/02/95	S14C0006	2/14/95
M03A0301	2/07/95	M03A0303	2/17/95
M07C0010	2/07/95	M01D0051	2/22/95
S14K0011	2/08/95	M03A0305	2/23/95
S16B0029	2/08/95	M03A0306	2/24/95
S16B0030	2/08/95	M06C0023	2/24/95
M08D0013	2/09/95	M03A0307	2/28/95

1.0 INTRODUCTION

This report covers the activities of FLTG, Inc. and the French Limited Project for February, 1995. FLTG, Inc. manages the project for the French Limited Task Group of Potentially Responsible Parties.

During February, 1995, the project team focused on the following activities and issues:

- Health, Safety, and Quality.
- Safety awareness.
- Contractor safety.
- HAZOP of daily work assignments.
- Detecting and correcting work place hazards.
- Response to changing site conditions.
- Injection of Cell D water.
- Maintain DO, OUR, HMB, and plate count in Cell D.
- Vegetation evaluation in Cell E.
- Operation and maintenance of the aquifer remediation system.
- In-situ aquifer bioremediation.
- Riverdale property lease.
- Water treatment plant operation and maintenance.
- Operation of the data base management system.

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MONTHLY PROGRESS REPORT
Introduction

French Ltd. Project
FLTG, Incorporated

- Wetlands project construction.
- This report includes:
 - A summary of February activities, issues, and progress.
 - Lagoon activities and issues.
 - Groundwater and Subsoil Remediation activities, issues, and progress.
 - Groundwater Treatment Plant activities and issues.
 - Ambient Air Management status.
 - QA/QC status and data.
 - Site management activities and issues.
 - Wetlands restoration activities, issues, and progress.

**MONTHLY PROGRESS REPORT
Summary****French Ltd. Project
FLTG, Incorporated****2.0 SUMMARY****2.1 Summary of Activities and Progress****2.1.1 Health and Safety**

There were no personal injury incidents.

There were no equipment damage incidents.

All site workers earned the February safety bonus.

Conducted safety meetings and job inspections at the start of each shift; reviewed safety issues before starting all jobs.

All employees and contractors attended daily safety meetings.

Conducted daily mini-HAZOP of all specific jobs.

Supervision made 239 specific on-the-job safety contacts.

Emphasized wet, slippery conditions.

Inspected and certified all fire extinguishers.

Inspected all contractor equipment before on-site use.

Inspected all vendor delivery trucks before site entry.

Emphasized the hazards and precautions associated with working around moving equipment.

Conducted 20 specific health and safety inspections.

Logged all safety issues each shift; less than 24-hour response to all safety issues.

MONTHLY PROGRESS REPORT
Summary

French Ltd. Project
FLTG, Incorporated

The daily raffle ticket safety awareness program has been effective in maintaining daily safety awareness among all site personnel and contractors.

Conducted personnel exposure monitoring, and all results were within acceptable levels. The most recent results are in Table 2-1.

2.1.2 Quality/QAQC/Data Base Management

The total quality process was used. The status of the goals is shown on Table 2-2.

Raw data is being validated as per the plan.

The data base management system operated with no problems or delays.

There were no data or reports rejected due to errors.

American Analytical continued to provide data on time.

The treated water effluent exceeded the total chlorinated hydrocarbon effluent criteria on one occasion; there was no negative impact on the public health or the environment.

2.1.3 Lagoon

Maintained a high level of biological activity in Cell D; OUR and HMB were high. Added O₂ to Cell D using a downdraft aerator for four days. Bottom profiles continue to indicate low levels of soft biomass in Cell D.

Continued subsurface injection of Cell D water in Cell E and Cell F; there were no problems or issues, and adequate gradient control was maintained.

Continued evaluation of various tree and bush species for passive dewatering of the subsurface inside the floodwall.

Tested floodwall gate closure.

2.1.4 Ambient Air Management

MONTHLY PROGRESS REPORT
Summary

French Ltd. Project
FLTG, Incorporated

Ambient air quality was manually checked daily with portable analyzers, and no response action was required.

Air quality was continuously monitored in all potential exposure areas and on all special jobs.

Time-integrated samples were collected in three work areas, and the results indicated no exposure; the data is shown in Table 2-1.

2.1.5 Aquifer Remediation

Monitored status of DNAPL plumes.

Continued routine S1 and INT oxygen and nutrient injection.

Continued to evaluate ways to increase INT remediation rates.

Completed pressure fracturing the INT zone near low producing INT wells; sand, nutrients, and an oxygen source were injected into the fractures; the results look encouraging.

Operated vacuum-enhanced pumping systems for INT wells.

Issued weekly well status and performance reports.

Inspected and adjusted all wells each day.

Continued daily maintenance of recovery and injection wells.

Completed monthly well measurements and sampling; TOC levels are still low.

Maintained O₂ content of injection water at about 40-45 ppm.

Developed and implemented a plan to shut off 73 production or injection wells in areas that have reached aquifer remediation shut-off criteria.

Developed active remediation shut-off criteria and reviewed with EPA, TNRCC, and CH2M Hill. Developed a modeling approach to generate specific compliance concentration levels at the compliance points before 10 years of natural flushing.

**MONTHLY PROGRESS REPORT
Summary****French Ltd. Project
FLTG, Incorporated****2.1.6 Groundwater Treatment**

The carbon blending system operated with no problems; the amount of effluent water requiring carbon treatment continued to decrease as the treatment plant influent water TOC decreased and as the biomass activity stabilized.

The water treatment plant was shut down for four hours to clean the build-up from the control valve between R-1 and R-2.

The water treatment plant effluent data is shown in Table 2-3. All effluent samples met criteria.

TOC input to T-101 continued to decrease.

The process operators collected all the process water and ground water samples.

2.1.7 Wetlands Restoration

Continued regular site dewatering; it appears that some dewatering will be required after every significant rainfall; graded completed areas to provide run-off control.

Completed topsoil removal and started topsoil replacement in selected areas.

Continued excavation of flow channels; frequent wet weather delayed progress on site excavation.

Received lump sum bids for the bridges, and awarded the work to Remedial Construction.

Reviewed status, progress, and issues with the agency review committee.

2.1.8 Site Management and Issues

Used the on-site laboratory to process all the operational control samples.

Reviewed site progress and issues in detail with EPA and TNRCC on a regular basis.

Validated all analytical data as per the QAQC plan.

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MONTHLY PROGRESS REPORT
Summary

French Ltd. Project
FLTG, Incorporated

Reviewed project status and issues each day to ensure focus on critical issues - safety, quality, cost, INT zone progress.

Issued weekly cost, schedule, and maintenance reports.

Reviewed progress on issues and action plans each week.

Reduced aquifer remediation operational and maintenance requirements.

Reduced technical support MH's.

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MONTHLY PROGRESS REPORT
Summary

French Ltd. Project
FLTG, Incorporated

TABLE 2-1

Ambient Air Management
Time Integrated Exposure Data

Compound	PEL 8 hour PPM	MO1D005101 9-Feb-95 WTP Operator		MO1D005102 9-Feb-95 Well Maintenance		MO1D005103 9-Feb-95 Security	
		% of PEL	PPM	% of PEL	PPM	% of PEL	PPM
Chloromethane	50	0.000	0.000	0.000	0.000	0.000	0.000
Bromomethane	5	0.000	0.000	0.000	0.000	0.000	0.000
Vinyl chloride	1	0.000	0.000	0.000	0.000	0.003	0.000
Chloroethane	1000	0.000	0.000	0.000	0.000	0.000	0.000
Dichloromethane	50	0.001	0.000	0.000	0.000	0.000	0.000
Acetone	750	0.001	0.007	0.000	0.002	0.001	0.006
Carbon disulfide	10	0.000	0.000	0.000	0.000	0.000	0.000
1,1-Dichloroethene	5	0.020	0.001	0.000	0.000	0.000	0.000
1,1-Dichloroethane	100	0.000	0.000	0.000	0.000	0.000	0.000
trans-1,2-Dichloroethene	200	0.000	0.000	0.000	0.000	0.000	0.000
Chloroform	10	0.000	0.000	0.005	0.000	0.006	0.001
1,2-Dichloroethane	10	0.000	0.000	0.001	0.000	0.001	0.000
2-Butanone	200	0.000	0.000	0.000	0.000	0.002	0.004
1,1,1-Trichloroethane	350	0.007	0.023	0.000	0.000	0.000	0.000
Carbon Tetrachloride	5	0.001	0.000	0.003	0.000	0.003	0.000
Vinyl acetate	10	0.000	0.000	0.000	0.000	0.000	0.000
Bromodichloromethane			0.000		0.000		0.000
1,2-Dichloropropane	75	0.000	0.000	0.000	0.000	0.000	0.000
cis-1,3-Dichloropropen	1	0.000	0.000	0.000	0.000	0.000	0.000
Trichloroethene	50	0.000	0.000	0.000	0.000	0.000	0.000
Dibromochloromethane			0.000		0.000		0.000
1,1,2-Trichloroethane	10	0.000	0.000	0.000	0.000	0.002	0.000
Benzene	1	0.016	0.000	0.080	0.001	0.169	0.002
trans-1,3-Dichloroprop	1	0.000	0.000	0.000	0.000	0.000	0.000
2-Chloroethylvinyl ether			0.000		0.000		0.000
Bromoform	0.5	0.000	0.000	0.000	0.000	0.000	0.000
4-Methyl-2-pentanone	50	0.000	0.000	0.000	0.000	0.001	0.000
2-Hexanone	5	0.000	0.000	0.004	0.000	0.001	0.000
Tetrachloroethene	50	0.000	0.000	0.000	0.000	0.000	0.000
1,1,2,2-Tetrachloroet	1	0.000	0.000	0.000	0.000	0.000	0.000
Toluene	100	0.001	0.001	0.003	0.003	0.004	0.004
Chlorobenzene	10	0.000	0.000	0.000	0.000	0.000	0.000
Ethylbenzene	100	0.000	0.000	0.000	0.000	0.000	0.000
Styrene	50	0.000	0.000	0.000	0.000	0.000	0.000
Xylene (total)	100	0.000	0.000	0.000	0.000	0.000	0.000
Hexane			0.001		0.001		0.002

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MONTHLY PROGRESS REPORT
Summary

French Ltd. Project
FLTG, Incorporated

TABLE 2-2

Project Quality

Status as of

02/28/95

Goals

Yes	1)	No OSHA recordable injuries.	
Attention	2)	100% compliance with all safety rules and procedures.	
Yes	3)	No citations for violations of applicable, relevant and appropriate regulations.	
Yes	4)	100% attendance (including subcontractors) at daily safety meetings.	
Attention	5)	Less than 24-hour response time on health and safety issues.	
Yes	6)	100% sign-in and security clearance.	
Yes	7)	No invalidation of reported data due to QA/QC issues.	
	8)	Spend less than:	<u>MH/Month</u>
Yes		• Direct hire	3,000
Yes		• FLTG management (5 people)	700
Yes/Attention		• Technical support (3 people)	600
Yes		• Maintenance support	120
Yes	9)	Pump at least 90 gpm; inject at least 60 gpm.	
Yes	10)	Remediate shallow alluvial zone aquifer in 60 months.	
Yes	11)	Hold analytical cost to less than \$20,000 per month (1994 only).	
Yes	12)	No unscheduled overtime (per day or per week).	
Yes	13)	No agency contacts which require 3rd party resolution.	
Yes	14)	Documented training of site personnel for all work assignments.	
Yes	15)	Weekly audit of actual performance versus goals.	

MONTHLY PROGRESS REPORT
Summary

French Ltd. Project
FLTG, Incorporated

TABLE 2-3
Treated Water Results Summary

Collected	Set No.	pH		TSS		TOC		O&G		Benzene		Chlor HC's		Total PCBs		Naphthalene	
		(6-9)		5 PPM		55 PPM		15 PPM		150 PPB		500 PPB		0.65 PPB		300 PPB	
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg
3-Oct-94	M03A0276	7.36	1.			43.		2.5		2.5		593.		.16		5.	
6-Oct-94	M03A0277	7.44	1.			43.1		2.5		6.		230.		.16		5.	
10-Oct-94	M03A0278	7.61	1.			18.7		2.5		6.		310.		.16		5.	
13-Oct-94	M03A0279	7.28	1.			20.7		2.5		6.		380.		.16		5.	
3-Nov-94	CF-Out 1103	7.39	6.			23.1		2.5		2.5		14.		.16		5.	
14-Nov-94	M03A0282	7.4	9.			23.4		2.5		2.5		145.		.16		5.	
17-Nov-94	M03A0283	7.38	2.			37.3		2.5		2.5		611.		.16		5.	
21-Nov-94	M03A0284	7.27	4.			5.5		2.5		6.		423.		.16		5.	
24-Nov-94	M03A0285	7.26	7.38	4.	3.2	38.8	28.2	2.5	2.5	25.	6.6	1647.	484	.16	.16	5.	5.
28 Nov-94	M03A0286	7.24	7.36	.5	3.2	44.7	28.4	2.5	2.5	12.5	7.7	668.	492	.16	.16	5.	5.
1-Dec-94	M03A0287	7.4	7.36	1.	3.2	34.8	27.4	2.5	2.5	6.	7.7	526.	525	.16	.16	5.	5.
5-Dec-94	M03A0288	7.57	7.35	1.	3.2	28.5	28.5	2.5	2.5	6.	7.7	305.	524	.16	.16	5.	5.
8-Dec-94	M03A0289	7.52	7.38	1.	3.2	40.6	30.7	2.5	2.5	6.	7.7	480.	535	.16	.16	5.	5.
12-Dec-94	M03A0290	7.43	7.39	4.	2.9	33.	31.8	2.5	2.5	6.	8.1	342.	572	.16	.16	5.	5.
15 Dec-94	M03A0291	8.13	7.47	.5	2.	23.	31.8	2.5	2.5	6.	8.4	145.	572	.16	.16	5.	5.
19-Dec-94	M03A0292	7.96	7.53	1.	1.9	29.3	30.9	2.5	2.5	2.5	8.4	75.	512	.16	.16	5.	5.
22-Dec-94	M03A0293	7.91	7.6	4.	1.9	17.8	32.3	2.5	2.5	2.5	8.1	170.	484	.16	.16	5.	5.
26-Dec-94	M03A0294	7.68	7.65	10.	2.6	41.8	32.6	2.5	2.5	6.	5.9	353.	340	.16	.16	5.	5.
29-Dec-94	M03A0295	7.79	7.71	1.	2.6	15.4	29.4	2.5	2.5	2.5	4.8	205.	289	.16	.16	5.	5.
2-Jan-95	M03A0296	7.78	7.75	4.	2.9	12.9	26.9	2.5	2.5	5.	4.7	275.	261	.16	.16	5.	5.
5-Jan-95	M03A0297	7.81	7.78	5.	3.4	19.	25.9	2.5	2.5	6.	4.7	249.	255	.16	.16	5.	5.
9-Jan-95	M03A0298	7.8	7.81	7.	4.1	9.8	22.4	2.5	2.5	2.5	4.3	124.	215	.16	.16	5.	5.
12-Jan-95	M03A0299	7.77	7.85	2.	3.8	9.8	19.9	2.5	2.5	2.5	3.9	200.	200	.16	.16	5.	5.
16-Jan-95	M03A0300	7.61	7.79	4.	4.2	18.3	19.3	2.5	2.5	6.	3.9	393.	227	.16	.16	5.	5.
19-Jan-95	M03A0301	7.44	7.73	2.	4.3	19.8	18.3	2.5	2.5	5.	4.2	454.	269	.16	.16	5.	5.
23-Jan-95	M03A0302	7.82	7.72	9.	4.9	35.5	20.3	2.5	2.5	6.	4.6	192.	272	.16	.16	5.	5.
26-Jan-95	M03A0303	7.66	7.72	.5	3.8	20.5	17.9	2.5	2.5	6.	4.6	234.	258	.16	.16	5.	5.
30-Jan-95	M03A0304	7.15	7.65	4.	4.2	44.3	21.1	2.5	2.5	25.	7.1	2326.	494	.16	.16	5.	5.
2-Feb-95	M03A0305	7.28	7.59	.5	3.8	11.7	21.	2.5	2.5	6.	7.2	613.	532	.16	.16	5.	5.
6-Feb-95	M03A0306	7.55	7.56	1.	3.3	11.7	20.2	2.5	2.5	5.	7.1	411.	550	.16	.16	5.	5.
9-Feb-95	M03A0307	7.52	7.53	5.	3.1	8.8	20.	2.5	2.5	5.	7.4	226.	561	.16	.16	5.	5.
13-Feb-95	M03A0308	7.5	7.5	22.	5.3	9.7	20.	2.5	2.5	5.	7.7	349.	578	.16	.16	5.	5.
16-Feb-95	M03A0309	7.33	7.47	.5	4.9	5.2	18.6	2.5	2.5	5.	7.6	276.	565	.16	.16	5.	5.
20-Feb-95	M03A0310	7.37	7.46	6.	5.4	5.8	17.	2.5	2.5	4.	7.4	193.	536	.16	.16	5.	5.
23-Feb-95	M03A0311	7.29	7.41	1.	4.5	1.	13.2	2.5	2.5	2.5	7.1	60.	521	.16	.16	5.	5.
27-Feb-95	M03A0312	7.46	7.38	3.	4.8	9.5	12.	2.5	2.5	2.5	6.7	164.	513	.16	.16	5.	5.

Discharge sample of 17-Oct destroyed in flood.

Chlorinated hydrocarbons value is sum of detected concentrations of 21 volatile chlorinated hydrocarbons on target compound list.

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TABLE 2-3 (Continued)
Treated Water Results Summary

Collected	Set No.	As	Ba	Cd	Cr	Cu	Pb	Mn	Hg	Ni	Se	Ag	Zn
		150 PPB	200 PPB	50 PPB	500 PPB	15 PPB	66 PPB	300 PPB	1 PPB	148 PPB	20 PPB	5 PPB	162 PPB
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg
3-Oct-94	M03A0276	13.	60.	1.3	2.5	3.	1.3	11.	.1	20.	1.3	2.5	9.
6-Oct-94	M03A0277	14.	73.	1.3	2.5	3.	1.3	9.	.1	2.5	1.3	2.5	3.8
10-Oct-94	M03A0278	11.	58.	1.3	2.5	3.	1.3	1.3	.1	1.3	1.3	2.5	10.
13-Oct-94	M03A0279	10.	70.	1.3	2.5	2.5	1.3	3.	.1	2.5	1.3	2.5	3.8
3-Nov-94	CF-Out 1103	46	32.	.1	.2	5.	.5	21.	.1	7.	1.3	.2	50.
14-Nov-94	M03A0282	30.	12.	.1	.2	3.	.5	.1	.1	.1	1.2	.2	3.
17-Nov-94	M03A0283	15.	51.	.1	2.	2.	.5	14.	.1	8.	1.2	.2	6.
21-Nov-94	M03A0284	10.	50.	.1	.2	2.	.5	6.	.1	4.	1.2	.2	4.
24-Nov-94	M03A0285	16.	18.3	79.	54	.1	.6	1.	2.	2.8	.8	27.	10.3
28-Nov-94	M03A0286	6.	17.6	115.	60	.1	.5	.2	1.8	2.	2.7	.5	18.
1-Dec-94	M03A0287	11.	17.2	109.	64	.1	.4	.5	1.6	1.	2.5	.7	7.
5-Dec-94	M03A0288	12.	17.3	121.	71	.1	.2	1.	1.4	3.	2.5	1.	19.
8-Dec-94	M03A0289	14.	17.8	128.	77	.1	.1	1.	1.2	.3	2.3	.5	6.
12-Dec-94	M03A0290	7.	13.4	154.	91	.1	.1	7.	1.4	4.	2.1	.5	9.
15-Dec-94	M03A0291	49.	15.6	92.	100	.1	.1	2.	1.6	.7	1.9	.5	3.
19-Dec-94	M03A0292	16.	15.7	93.	105	.1	.1	1.	1.5	1.	1.8	.5	6.
22-Dec-94	M03A0293	17.	16.4	130.	113	.1	.1	.2	1.5	1.4	1.7	.5	6.
26-Dec-94	M03A0294	11.	15.9	151.	121	.1	.1	.2	1.4	1.8	1.7	.5	9.
29-Dec-95	M03A0295	18.	17.2	114.	121	.2	.1	1.	1.5	1.	1.6	.5	6.
2-Jan-95	M03A0296	9.9	18.3	172.	140	.1	.1	2.1	1.8	1.6	1.8	.5	18.
5-Jan-95	M03A0297	14.	18.7	151.	145	.1	.1	3.	2.	2.	1.9	.5	57.
8-Jan-95	M03A0298	12.	18.7	171.	151	.1	.1	.9	2.	3.	1.9	.5	23.
12-Jan-95	M03A0299	16.	18.9	143.	152	.1	.1	.2	1.9	2.	2.1	.5	2.
16-Jan-95	M03A0300	12.	19.4	146.	151	.1	.1	.6	1.2	3.	1.9	.5	1.
19-Jan-95	M03A0301	18.	16.	135.	156	.1	.1	.4	1.1	2.	2.1	.5	6.
23-Jan-95	M03A0302	12.	15.5	140.	161	.1	.1	.2	1.	2.	2.2	.5	3.
26-Jan-95	M03A0303	16.	15.4	148.	163	.1	.1	.2	2.	2.3	.5	.6	2.
30-Jan-95	M03A0304	9.	15.2	238.	173	.1	.1	.2	1.	2.	2.3	.5	43.
2-Feb-95	M03A0305	10.	14.3	192.	182	.1	.1	1.	2.	2.4	.5	.6	15.
6-Feb-95	M03A0306	11.	14.4	188.	184	.1	.1	.2	.7	1.	2.3	.5	4.
9-Feb-95	M03A0307	16.	14.7	195.	188	.1	.1	.2	.4	4.	2.6	.5	16.9.
13-Feb-95	M03A0308	13.	14.8	184.	190	.1	.1	.2	.5	1.	2.3	.5	6.
16-Feb-95	M03A0309	12.	14.3	184.	194	.1	.1	.2	.5	1.	2.2	.5	6.
20-Feb-95	M03A0310	14.	14.6	191.	199	.1	.1	.2	.7	2.	2.1	.5	6.
23-Feb-95	M03A0311	13.	14.	165.	203	.1	.1	.1	.8	2.	2.1	.5	3.
27-Feb-95	M03A0312	22.	15.1	144.	203	.1	.1	4.5	1.3	3.	2.2	.5	6.

Discharge sample of 17-Oct destroyed in flood.
Metals values in PPB.

2.2 Problem Areas and Recommended Solutions

<u>Problem</u>	<u>Solution</u>
Maintain high level of safety awareness.	Daily raffle ticket program. Daily safety meetings. Supervisory safety contacts.
On-the-Job safety attention.	Contact all employees at least twice per day on safety issues. Review job details as work proceeds. Stop and challenge approach.
Hazard detection and response.	Safety inspections. HAZOP's on all jobs. Constant awareness.
Lagoon remediation confirmation.	Certification letter from EPA.
Low flow in some INT pumping and injection wells.	Vacuum enhanced pumping. Increase injection pressure in some areas. Pressure fracture INT zone in selected areas.
Slow progress on wetlands excavation.	Adjust work schedules when having wet weather; flexible field work plan.
Chlorinated hydrocarbons in treated water.	Adjust and balance flows from selected wells.
Increase INT zone remediation rate.	Increase pumping and injection rates.
Cell D water handling.	Inject in Cell E subsurface.

MONTHLY PROGRESS REPORT
Summary

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2.3 Problems Resolved

<u>Problem</u>	<u>Solution</u>
Chlorinated hydrocarbons in treated water.	Balance chlorinated hydrocarbon input to the water treatment plant.
Sand fracturing of INT zone on west end.	Completed sand fracturing program.
Low flushing rate just outside the INT-11 containment wall.	Added three injection wells and two pumping wells in the area.

2.4 Deliverables Submitted

January, 1995 monthly report.

2.5 Upcoming/Ongoing Events and Activities

Daily safety meetings and inspections.

Daily safety awareness program.

Emphasis on multiple work assignments.

Emphasis on hazard identification and response.

Attention to safety details.

Respond to HAZOP audits.

Add flushing capacity in specific INT areas.

Daily well pump checks and maintenance.

Aquifer compliance testing in select areas and zones.

Operate S1 and INT wells for expedited in-situ bioremediation.

MONTHLY PROGRESS REPORT
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Ship surplus equipment.

Injection of Cell D water.

Evaluate vegetation in Lagoon area.

Operate Data Base Management System.

Total Quality process.

Continue biological activity monitoring in S1 wells and INT wells.

Issue permeability results of INT-11 area containment wall tests.

Develop and issue aquifer compliance sampling plan and compliance criteria modeling plan.

Continue QA/QC data confirmation.

Optimize carbon usage in Water Treatment Plant.

Develop lagoon closure plan.

Submit MCC-1 area remediation report.

Continue wetlands restoration project.

2.6 Key Staffing Changes

None.

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MONTHLY PROGRESS REPORT
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French Ltd. Project
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2.7 Percent Complete

Research & Development	- 98%
Facilities	- 100%
Slough	- 100%
Subsoil Investigation	-100%
Floodwall	-100%
Lagoon Remediation	-100%
Groundwater	- 77%
Lagoon Dewatering/Fixation	- 100%
Water Treatment	- 74%
Wetlands	- 60%
Demobilization	- 65%
Monitoring	- 60%

2.8 Schedule

All deliverables are on schedule.

Complete active aquifer remediation by February 1, 1996.

2.9 Operations and Monitoring Data

The operations and monitoring data are submitted as parts of Sections 3.0, 4.0, 5.0, and 6.0 of this report, and the supporting data are stored in secure storage at the French project office.

**MONTHLY PROGRESS REPORT
Summary**

**French Ltd. Project
FLTG, Incorporated**

2.10 Credits Accrued/Applied

Status of Credits

	Accrued this period	Accrued to date	Applied this period	Applied to date	Running total
December 1990	34	34	0	0	34
December 1991	0	100	0	0	100
December 1992	0	101	0	2	99
December 1993	0	104	0	4	100
January 1994	0	104	0	4	100
February 1994	0	104	0	4	100
March 1994	0	104	0	4	100
April 1994	0	104	0	4	100
May 1994	0	104	0	4	100
June 1994	0	104	0	4	100
July 1994	5	109	0	4	105
August 1994	0	109	0	4	105
September 1994	0	109	0	4	105
October 1994	0	109	0	4	105
November 1994	0	109	0	4	105
December 1994	0	109	0	4	105
January 1995	0	109	0	4	105
February 1995	0	109	0	4	105

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Summary

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2.11 Community Relations

Maintained 24-hour, call-in Hot Line.

Conducted four site tours for interested parties.

Contacted nearby local residents with update on site activities.

Contacted several Riverdale residents with site status report.

Sampled selected Riverdale wells.

Reviewed Barett Station community development.

MONTHLY PROGRESS REPORT
Lagoon Bioremediation

French Ltd. Project
FLTG, Incorporated

3.0 LAGOON

3.1 Summary of Activities

Evaluating test plots of various plants in Cell E; the Cypress and River Birch are stressed by lack of water. Planted test plots of eight different kinds of trees. Evaluating a drip irrigation system.

Injected about 210,000 gallons of "clean" Cell D water in Cell E subsurface.

Operated aerator in Cell D to expedite biomass degradation.

Evaluating various options for gradient control inside the lagoon.

3.2 Problems and Response Action

<u>Problem</u>	<u>Recommended Solution</u>
Ground cover growth slow in Cell E.	Hydroseed a rye grass blend. Water frequently. Evaluate different grass blends.
Poor tree growth in Cell E.	Evaluate different types of trees. Design an irrigation system.
Treat Cell D water.	Subsurface injection.

3.3 Problems Resolved

None.

MONTHLY PROGRESS REPORT
Lagoon Bioremediation

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3.4 Deliverables Submitted

None.

3.5 Upcoming Events and Activities

Maintain pH, DO, OUR, and nutrient levels in Cell D.

Operate aerator/mixer in Cell D as required.

Inject Cell D water in Cell E subsurface.

Hydroseed Cell E and Cell F as required.

Maintain vegetation in Cell E.

4.0 GROUNDWATER AND SUBSOIL REMEDIATION

4.1 Summary of Activities

4.1.1 Operation of Production and Injection Well Systems

Operation of the production and injection wells systems during February 1995 is summarized in Table 4-1. Flows from the production well system are summarized in Table 4-2 and Figure 4-1. Flows into the injection well system are summarized in Table 4-3 and Figure 4-2. Individual well flows are summarized in Table 4-4. The expanded well shut-off for meeting criteria is included as Table 4-8. INT-143 monitoring well was converted to a pumping well.

4.1.2 Operational Monitoring

Operational monitoring associated with the groundwater and subsoil remediation system during February 1995 is summarized in Table 4-5. Results of the annual GW sampling will be included in March, 1995, report.

4.1.3 Data Management and Evaluation

Operational monitoring data from the groundwater and subsoil remediation system for this reporting period were entered into FLTG's database. Tables and figures for this section of the Monthly Progress Report were generated from this database.

4.2 Problems and Response Actions

Groundwater production and injection rates were below target because of the expended shut-down of both production and injection wells. See Table 4-1. Nutrient and dissolved oxygen concentrations in injection water were at or close to target levels. No specific response action is planned.

Table 4-1

Groundwater System Operation - February 1995 <i>Reporting Period: December 27 (29 days) - February 30 (33 days)</i>	
Production System	
No. of production wells: 110 (S1 unit, 53; INT unit, 57)	
No. of operational wells by end of month: 61 (S1 unit, 16; INT unit, 45)	
Changes in system since last month: expanded no. of wells that reached criteria.	
No. of wells off line having reached criteria: 49	
No. of wells on pulse pumping schedule: 0	
No. of wells producing DNAPL: 0	
Groundwater produced: 5.9 M gal; 242.0 M gal since startup based on main meter	
Total production rate: avg. 111.8 gpm (target 140 gpm); range 101-185 gpm	
S1 production rate: avg. 47.5 gpm; avg. 2.4 gpm per metered well	
INT production rate: avg. 64.3 gpm; avg. 1.1 gpm per metered well	
Total flow rate apportioned between S1 and INT units based on individual well meter readings; average flows based on 28 days operation	
TOC (non-volatile) concentration avg. 40 ppm; range 18-66 ppm	
TOC mass removed: 1,980 lb. (364,365 lb. since startup); 71 lb./day	
Injection System	
No. of injection wells: 62 (S1 unit, 18; INT unit, 44)	
Rainfall during period: not recorded	
Changes in system since last month: converted S1-101 to injection; completed INT-224 and -225 as new injection wells; shut off 7 S1 and 16 INT injection wells in criteria zones	
Groundwater injected: 5.7 M gal (133.4 M gal since startup) based on main meters	
S1 unit injected: 3.3 M gal (75.2 M gal since startup)	
INT unit injected: 2.4 M gal (62.8 M gal since startup)	
Total injection rate: avg. 79.3 gpm (target 100 gpm); range 71-90 gpm	
S1 injection rate: avg. 29.6 gpm; avg. 4.0 gpm per well	
INT injection rate: avg. 49.7 gpm; avg. 1.8 gpm per well	
Total flow rate apportioned between S1 and INT units based on individual well meter readings; average flows based on 28 days operation	
Oxygen added to injection water: 9,010 lb.; 252 lb./day used (input efficiency = 31%)	
Avg. DO in injection water: S1, 47.3 ppm; INT, 65.2 ppm (target 40 ppm) \Rightarrow 97.7 lb./day injected	
Volume of 9.1% w/w KNO_3 nutrient solution added to INT unit, and S1-North wells: 19,630 gal	
Nutrient flow rate: 343.9 gpd, 0.32% of INT + S1-North inflow rate (target 0.38%)	
Calculated injection water NO_3^- concentration: 44.8 mg/L-N (target 50 mg/L-N)	

Note that average monthly flow rates at individual wells (calculated from weekly individual well flow meter readings) are not used directly to determine S1 and INT unit inflows and outflows, but are used to apportion total production and injection flows (calculated from daily main production and injection meter readings) between S1 and INT units. Average flows are based on the 28 day reporting period.

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MONTHLY PROGRESS REPORT
Groundwater and Subsoil Remediation

French Ltd. Project
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Table 4-2

Daily Groundwater Production and TOC Removal
February 1995

Date	Project Day	T-101 Outflow Rate (FQ-101A) (gpd)	T-101 Outflow Rate (gpm)	T-101 Influent Ave. TOC (mg/L)	T-101 Influent TOC Loading (kg/day)
31-Jan	1119	248,000	172	66	62
1-Feb	1120	266,200	185	32	32
2-Feb	1121	239,300	166	34	31
3-Feb	1122	235,400	163	17	15
4-Feb	1123	224,700	156	39	33
5-Feb	1124	225,100	156	32	27
6-Feb	1125	219,500	152	41	34
7-Feb	1126	237,600	165	18	16
8-Feb	1127	224,500	156	33	28
9-Feb	1128	223,100	155	20	17
10-Feb	1129	218,900	152	35	28
11-Feb	1130	211,900	147	33	26
12-Feb	1131	207,300	144	32	25
13-Feb	1132	208,600	145	35	28
14-Feb	1133	223,400	155	37	31
15-Feb	1134	227,600	158	42	36
16-Feb	1135	225,800	157	71	61
17-Feb	1136	214,200	149	65	53
18-Feb	1137	208,800	145	50	40
19-Feb	1138	210,600	146	38	30
20-Feb	1139	212,300	147	42	34
21-Feb	1140	201,500	140	52	40
22-Feb	1141	169,700	118	56	36
23-Feb	1142	170,500	118	40	26
24-Feb	1143	190,400	132	38	27
25-Feb	1144	196,900	137	43	32
26-Feb	1145	146,600	102	42	23
27-Feb	1146	145,200	101	37	20
Month Average		211,914	147	40	32
Month Total		5,933,600			893

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Groundwater and Subsoil Remediation

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Table 4-3

Daily Injection Flows
February 1995

Date	Project Day	INT South INT-90/100 S1 North Injection Wells FQ905		INT North (not INT-90/100) Injection Wells Meter FQ-906		S1 South Injection Wells Meter FQ-909		Total Injection Rate		Oxygen	Nutrients
		(gpd)	(gpm)	(gpd)	(gpm)	(gpd)	(gpm)	(gpd)	(gpm)		
31-Jan	1119	63,200	44	31,000	22	110,300	77	204,500	142	300	398
1-Feb	1120	62,600	43	32,800	23	110,200	77	205,600	143	300	390
2-Feb	1121	61,500	43	34,500	24	108,100	75	204,100	142	295	398
3-Feb	1122	61,200	43	34,100	24	108,200	75	203,500	141	200	413
4-Feb	1123	60,900	42	34,100	24	109,900	76	204,900	142	300	398
5-Feb	1124	60,700	42	33,900	24	109,500	76	204,100	142	300	405
6-Feb	1125	61,100	42	35,100	24	115,000	80	211,200	147	300	312
7-Feb	1126	62,600	43	37,900	26	121,800	85	222,300	154	400	376
8-Feb	1127	51,300	36	31,500	22	122,500	85	205,300	143	260	435
9-Feb	1128	77,700	54	44,800	31	123,400	86	245,900	171	320	379
10-Feb	1129	64,200	45	37,600	26	122,300	85	224,100	156	320	383
11-Feb	1130	64,100	45	38,200	27	122,000	85	224,300	156	360	386
12-Feb	1131	47,500	33	31,900	22	121,100	84	200,500	139	210	386
13-Feb	1132	26,800	19	27,700	19	132,300	92	186,800	130	475	409
14-Feb	1133	64,100	45	27,300	19	125,700	87	217,100	151	395	390
15-Feb	1134	77,000	53	38,000	26	100,300	70	215,300	150	260	224
16-Feb	1135	77,000	53	38,000	26	120,300	84	235,300	163	300	421
17-Feb	1136	31,400	22	28,700	20	121,600	84	181,700	126	320	405
18-Feb	1137	64,800	45	34,500	24	117,100	81	216,400	150	300	394
19-Feb	1138	64,100	45	34,200	24	115,000	80	213,300	148	320	390
20-Feb	1139	57,900	40	33,700	23	112,600	78	204,200	142	400	376
21-Feb	1140	51,100	35	32,900	23	110,100	76	194,100	135	400	266
22-Feb	1141	33,400	23	26,100	18	111,000	77	170,500	118	300	173
23-Feb	1142	36,600	25	32,900	23	115,400	80	184,900	128	320	300
24-Feb	1143	33,100	23	31,900	22	119,900	83	184,900	128	360	248
25-Feb	1144	32,400	23	35,100	24	116,000	81	183,500	127	320	214
26-Feb	1145	32,200	22	39,900	28	112,600	78	184,700	128	320	206
27-Feb	1146	31,500	22	38,500	27	118,200	82	188,200	131	355	158
Month Average		54,000	38	34,171	24	116,157	81	204,329	142	322	344
Month Total		1,512,000		956,800		3,252,400		5,721,200		9,010	9,630

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Table 4-4**Average Production and Injection Flow Rates - February 1995**

Flow rates are averages for the period January 31 - February 27 (28 days)

S1 Production Wells (53)**S1 Injection Wells (17)****INT Production Wells (58)****INT Injection Wells (42)**

Well ID	gpm	Well ID	gpm	Well ID	gpm	Well ID	gpm
S1-1	OFF	S1-49	OFF	INT-1	1.4	INT-63	0.2
S1-2	OFF	S1-50	OFF	INT-2	1.1	INT-64	3.0
S1-3	OFF	S1-51	OFF	INT-3	0.2	INT-71	2.4
S1-4	OFF	S1-52	OFF	INT-4	0.2	INT-72	0.9
S1-5	OFF	S1-53	OFF	INT-5	1.4	INT-73	3.8
S1-6	OFF	S1-54	NM	INT-6	0.2	INT-74	1.1
S1-7	OFF	S1-55	2.3	INT-7	0.2	INT-75	0.6
S1-8	OFF	S1-56	OFF	INT-8	1.3	INT-76	3.1
S1-9	OFF	S1-57	OFF	INT-9	1.1	INT-77	4.0
S1-10	OFF	S1-58	OFF	INT-10	2.9	INT-78	3.9
S1-11	OFF	S1-59	3.1	INT-11	1.5	INT-79	0.6
S1-12	NM	S1-65	4.7	INT-12	1.4	INT-80	0.7
S1-13	NM	S1-66	4.4	INT-13	0.3	INT-81	4.7
S1-14	OFF	S1-67	5.3	INT-14	0.2	INT-82	0.7
S1-15	OFF	S1-68	6.4	INT-15	0.6	INT-83	0.6
S1-16	OFF	S1-69	3.2	INT-16	0.1	INT-84	0.8
S1-17	0.8	S1-70	2.5	INT-17	0.1	INT-85	OFF
S1-18	0.8	Total	31.8	INT-18	0.4	INT-86	OFF
S1-19	1.7	Average	4.0	INT-19	0.3	INT-87	OFF
S1-20	2.2			INT-20	0.1	INT-88	OFF
S1-21	6.8			INT-21	0.4	INT-89	OFF
S1-22	0.8			INT-22	0.3	INT-90	OFF
S1-23	OFF			INT-23	0.1	INT-91	OFF
S1-24	3.3			INT-24	0.4	INT-92	OFF
S1-25	2.0			INT-25	0.4	INT-93	OFF
S1-26	5.1			INT-26	0.4	INT-94	OFF
S1-27	1.2			INT-27	1.4	INT-95	OFF
S1-28	3.8			INT-28	0.3	INT-96	OFF
S1-29	1.8			INT-29	1.8	INT-97	1.5
S1-30	4.6			INT-30	1.2	INT-98	1.3
S1-31	1.8			INT-31	1.2	INT-99	OFF
S1-32	3.1			INT-32	0.6	INT-100	OFF
S1-33	OFF			INT-33	0.1	INT-201	OFF
S1-34	OFF			INT-65	1.7	INT-202	0.7
S1-35	OFF			INT-66	0.3	INT-203	0.4
S1-36	OFF			INT-67	0.3	INT-204	1.7
S1-37	OFF			INT-68	2.5	INT-218	1.1
S1-38	OFF			INT-69	0.2	INT-218	1.4
S1-39	OFF			INT-70	1.8	INT-220	1.4
S1-40	OFF			INT-71	1.1	INT-221	4.8
S1-41	OFF			INT-72	0.6	INT-222	3.1
S1-42	OFF			INT-73	0.6	INT-223	1.1
S1-43	OFF			INT-74	0.9	Total	49.7
S1-44	OFF			INT-75	1.5	Average	1.8
S1-45	OFF			INT-76	0.7		
S1-46	OFF			INT-77	0.8		
S1-47	1.7			INT-78	3.0		
S1-48	OFF			INT-79	0.3		
S1-49	OFF			INT-80	3.4		
S1-50	OFF			INT-81	1.8		
S1-51	OFF			INT-212	1.8		
S1-52	OFF			INT-213	1.8		
S1-53	NM			INT-214	5.0		
S1-54	2.3			INT-215	2.5		
S1-55	OFF			INT-216	0.8		
S1-56	OFF			INT-217	7.9		
S1-57	OFF			Total	64.3		
S1-58	OFF			Average	1.1		
S1-59	3.1						
S1-60	OFF						
S1-61	0.2						
S1-62	3.2						
S1-63	1.4						
S1-64	0.8						
Total	47.5						
Average*	2.4						

* of metered wells

Note: total and average flow rates for S1 and INT units are corrected (per main flow meter readings) for use in Table 4-1.

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Table 4-5
Operational Monitoring - February 1995

Activity	Frequency	Purpose
Check production and injection wells for pump, meter, and level control operation, injection pressure, gas buildup, and flow meter readings.	Weekly	Identify and respond to individual well problems; maintain operating efficiency.
Read groundwater treatment plant inflow and outflow meters; nutrient injection flow meters; oxygen flows, pressure and temperature; and injection header back pressure.	2x daily	Identify and respond to treatment plant problems; control nutrient and injection flow rates.
Measure T-101 influent TOC.	2x daily	Track TOC removal.
Measure dissolved oxygen at 6 representative S1 and INT injection wells.	Weekly	Control oxygen injection.
Sample T-101 influent for VOC, TOC, and nutrient analysis, (1) from all operating production wells, and (2) from all wells located outside the floodwall.	Monthly	Develop chemical mass balance.

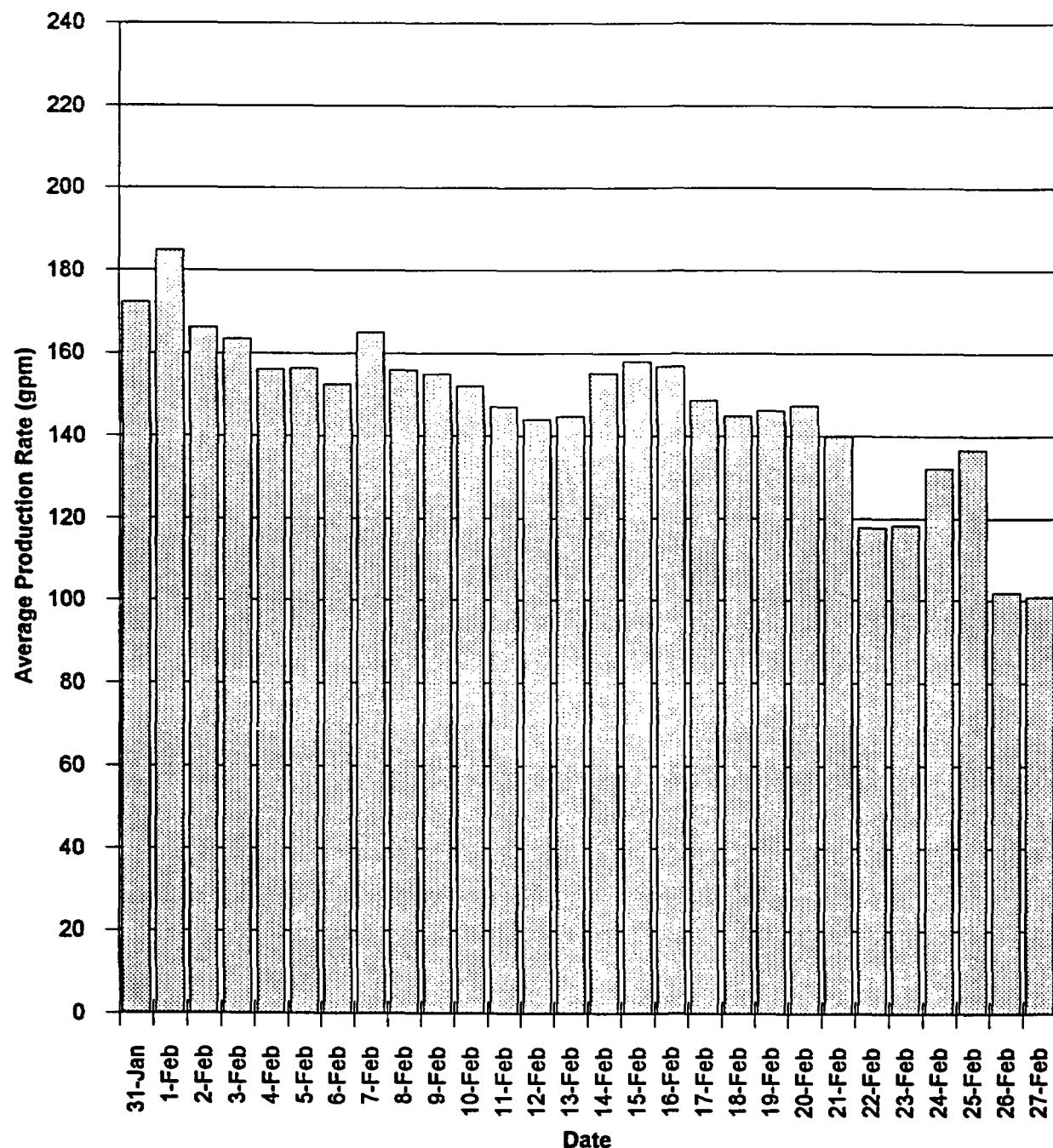
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Figure 4-1

Production Flows



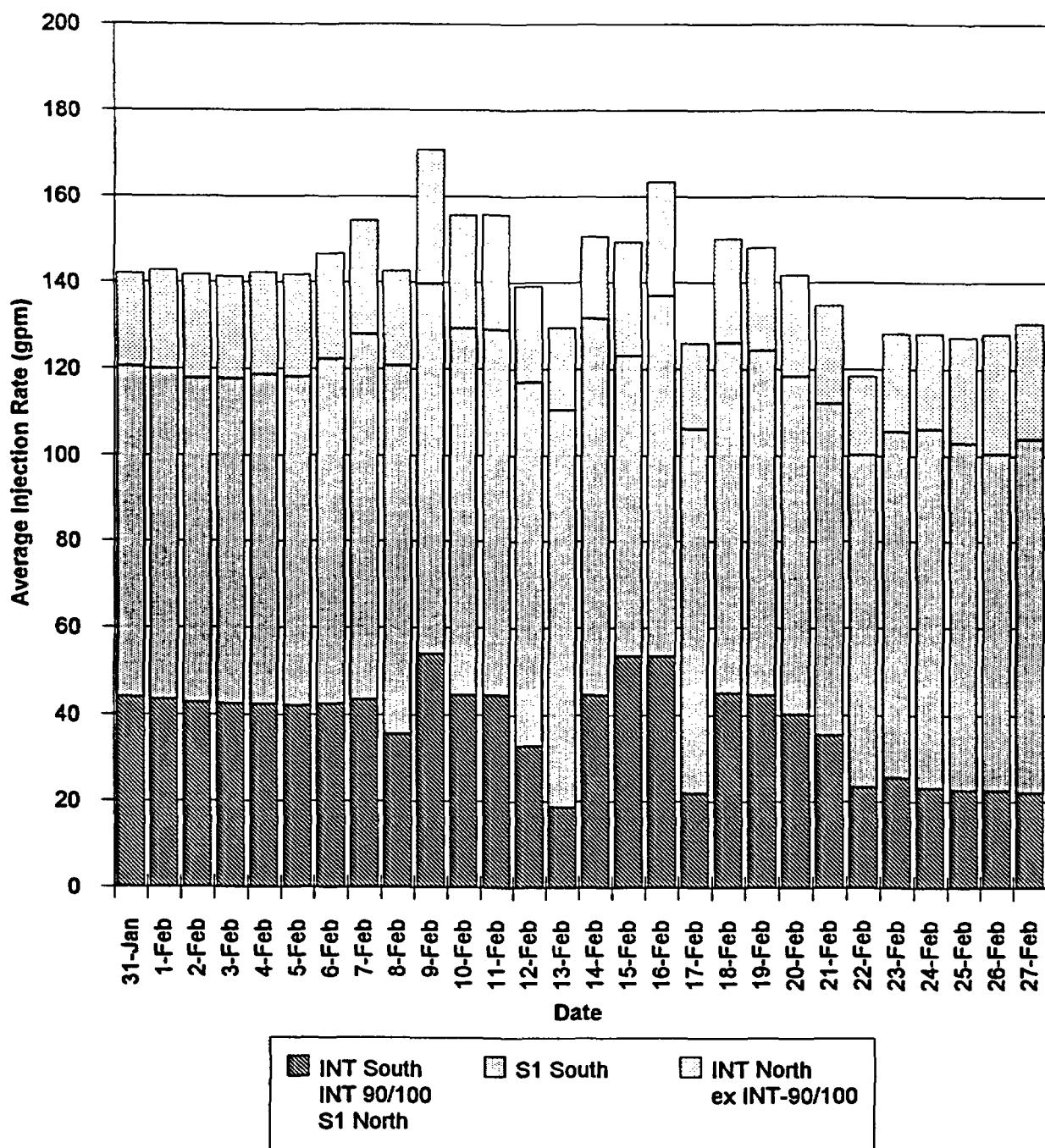
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Figure 4-2

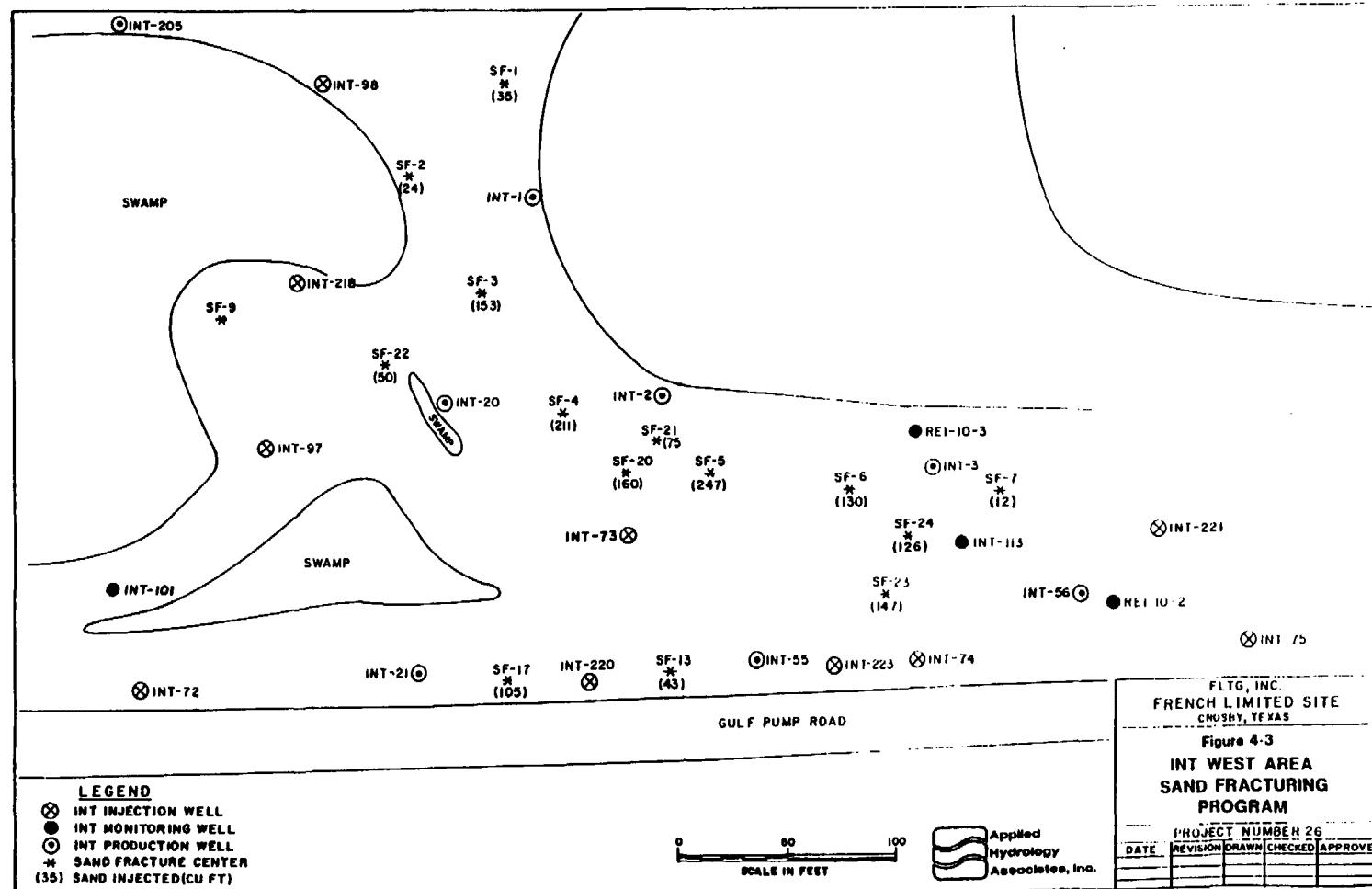
Injection Flows



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Figure 4-3
INT West Area Sand-Fracturing Plan



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0
5
8
N
3
5

Table 4-6
Sand Fracturing Summary (Refers to Figure 4-3)

SF Center	Sand Injected (cu. ft.)	Main injection interval (ft BGS)	Notes
1	35	37.5-45.0	
2	24	42.5-50.0	breakout 15' from boring
3	153	50.0-57.5	pressurized INT-1; breakout 15' from boring
4	211	30.0-55.0	
5	247	32.5-55.0	
6	130	42.5-55.0	pressurized INT-113; breakout at REI-10-3
7	12	55	breakout at 15' from boring
9	160	40.0-57.5	
13	43	45.0-50.0	3 cu.ft. at 45' and blew auger seal
17	105	35.0-47.5	5 cu.ft. at 35'; psi too high; no fracture
20	160	37.5-55.0	
21	75	47.5-55.0	breakout 25' from boring at floodwall
22	50	40.0-55.0	
23	147	35.0-50.0	attempted at 55' & 52.5'; psi too high; stopped at 35' after 25 cu.ft.
24	126	35.0-50.0	attempted at 55'; psi too high; 12 cu.ft. at 35' and blew auger seal
total 15	1,678		total centers and cu.ft.

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Table 4-7
Sand Fracture Area Injection and Pumping Rates

INT Injection			INT Pumping			
Well #	Pre sand fracture average (gpm)	Post sand fracture average (gpm)	Well #	Pre sand fracture average (gpm)	Post sand fracture average (gpm)	Addition of vacuum enhancement post sand fracture (gpm)
72	0.77	1.29	1	1.15	1.41	1.71
73	0.35	3.66	2	0.68	1.25	1.75
74	1.00	1.24	3	0.05	0.14	0.18
75	1.00	0.58*	20	0.07	0.14	0.19
97	0.89	1.44	21	0.31	0.37	0.57
98	0.81	1.30	55	1.78	1.91	
218	1.31	1.31				
220	1.80	0.85*				
221	0.60	0.78				
223	0.78	1.16				

* Wells off line 2 days for this average for excessive psi - seals leak. Reduced injection rate 2 additional days.

Pumping averages are actual (disregarding electrical maintenance down time).

INT-55 not VEP.

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Table 4-8

Schedule for Shut-Down of INT and S1 Pumping and Injection Wells

Date	Well #	Type (Prod. or Inj.)	Meter Reads	Flow Rate (gpm)	Operator tagged out
01-94	S1-35	Production			MC
	S1-43	Production			MC
05-94	S1-33	Production			MC
06-94	S1-34	Production			MC
06-94	S1-36	Production			MC
	S1-37	Production			MC
	S1-38	Production			MC
06-94	S1-42	Production			MC
	S1-23	Production			MC
	S1-5	Production			MC
12-94	S1-1	Production			WW
12-94	S1-2	Production			WW
	S1-3	Production			WW
	S1-4	Production			WW
	S1-6	Production			WW
12-94	S1-7	Production			WW
	S1-8	Production			WW
	S1-9	Production			WW
	S1-10	Production			WW
12-94	S1-11	Production			WW
	S1-12	Production			WW
	S1-13	Production			WW
	S1-14	Production			WW
12-94	S1-15	Production			WW
	S1-16	Production			WW
	INT-58	Injection	Leaking seal		WW
January, 1995 converted S1-1 thru S1-9 to injection for recharge water table for vegetation.					
02-18-95	S1-49	Injection		1.30	
	S1-39	Production		8.50	
	S1-60	Production		4.50	
	S1-48	Production		2.50	
	INT-17	Production		0.12	
02-19-95	INT-85	Injection		0.33	
	INT-86	Injection		1.00	
	INT-16	Production		0.16	
	S1-50	Injection		1.85	
	S1-19	Production		3.40	back on 2/22/95

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Table 4-8 (continued)

Schedule for Shut-Down of INT and S1 Pumping and Injection Wells

Date	Well #	Type (Prod. or Inj.)	Meter Reads	Flow Rate (gpm)	Operator tagged out
02-20-95	S1-56	Injection		3.85	
	S1-57	Injection		2.50	
	INT-87	Injection		0.51	
	INT-88	Injection		1.33	
	INT-89	Injection		1.10	
02-21-95	S1-46	Production		20.0	
	INT-15	Production		0.85	
	INT-90	Injection		2.75	
	INT-100	Injection		0.10	
02-22-95	INT-99	Injection		2.75	
	INT-91	Injection		1.69	
	INT-92	Injection		3.00	
	INT-93	Injection		1.00	
02-23-95	INT-94	Injection		0.08	
	INT-95	Injection		1.30	
	INT-96	Injection		1.00	
	S1-44	Production		9.00	
02-24-95	INT-201	Injection		1.21	
	S1-51	Injection		0.70	
	INT-33	Production		0.18	
	S1-40	Production		10.0	
02-25-95	S1-52	Injection		1.12	
	S1-53	Injection		1.75	
	INT-32	Production		1.00	
	INT-31	Production		1.55	
02-26-95	S1-41	Production		9.00	
	S1-45	Production		3.00	
	INT-30	Production		1.63	
	INT-29	Production		3.00	
02-27-95	INT-25	Production		0.40	
	INT-214	Production		5.10	
	INT-211	Production		1.90	
	INT-216	Production		0.70	
02-28-95	S1-24	Production		7.00	
	S1-31	Production		3.50	
	S1-47	Production		2.01	

4.3 Pending Issues**4.3.1 DNAPL Response**

During February, work continued on evaluating the INT-11 DNAPL cutoff wall permeability certification testing results. Responses were developed to the CH2M Hill comments on the DNAPL FS report; these responses were submitted to EPA.

4.3.2 S1 Unit Pulse Pumping

All the S1 unit pulse pumping wells were included in the expanded shut-down schedule. See Table 4-8.

4.3.3 Phreatophytes

Three trees each of fifteen varieties of native phreatophytes were planted this month.

4.4 Operational Refinements

The sand fracturing program was completed in February with 15 points at the close west end. The most dramatic increases have been in the nutrient and oxygen delivery via injection wells within the sand fracturing area.

With the increases in pumping rates from this program and the vacuum enhancement, an additional 1,000 pounds of contaminants can be removed per month from this affected area. See Table 4- 7.

The above progress from this program has been combined with an aggressive operational maintenance schedule to assist in meeting the goals for closure.

4.5 Data Summary and Discussion**4.5.1 Groundwater Production and Injection**

Groundwater production and injection rates were below target because of the expanded shut-off; the target production and injection rates will be adjusted to reflect the wells shut off.

4.5.2 Groundwater Levels and Flow Directions

The current extent of contaminated groundwater is contained within the S1 and INT extraction system capture zones.

Water levels were measured at monitoring wells in the first week of February, 1995. Contour maps will be presented on a quarterly basis in this operation year;

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the contour maps will be in the March, June, September, and December monthly reports.

4.5.3 TOC in shallow groundwater

TOC analyses on production wells were completed the first week in February. The analyses are in Table 4-9 and Table 4-10. The overall average TOC level continues to drop. Contour maps will be presented quarterly for this reporting year.

4.5.4 In-Situ Bioremediation

Complimentary injection wells were shut off to balance production wells reaching criteria. The emphasis continues to be to maximize delivery of oxygen and nutrients to the INT system. Dissolved oxygen analysis was conducted on the monitoring wells during the third well volume pumped.

4.6 Schedule

In March, four new injection wells and one new pumping well are planned for completion. INT-143 monitoring well is planned for conversion to pumping. The four new wells will be proceeded with CPT.

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Table 4-9

HISTORY OF TOC CONCENTRATIONS AT S1 PRODUCTION WELLS																	
Well ID	Baseline Nov-Dec 81 (ppm)	Jan 1994 (ppm)	Feb 1994 (ppm)	Mar 1994 (ppm)	Apr 1994 (ppm)	May 1994 (ppm)	June 1994 (ppm)	July 1994 (ppm)	Aug 1994 (ppm)	Sep 1994 (ppm)	Oct 1994 (ppm)	Nov 1994 (ppm)	Dec 1994 (ppm)	Jan 1995 (ppm)	Feb 1995 (ppm)		
S1-1	290	1,025	1,150	1,317	941	971	1,360	970	850	1,133	1,080	1,215	NS	1,592	NS		
S1-2	190	1,037	909	1,510	982	1,120	1,139	1,100	1,130	1,251	1,048	NS	NS	1,044	NS		
S1-3	370	1,090	1,120	1,037	793	783	755	760	670	566	692	750	NS	624	NS		
S1-4	47	848	1,300	1,025	676	669	668	420	552	620	552	576	NS	582	NS		
S1-5	51	1,079	624	1,151	655	583	473	NS	NS	NS	NS	NS	NS	504	NS		
S1-6	51	1,202	1,340	1,315	832	878	892	920	860	928	860	NS	NS	774	NS		
S1-7	200	NS	1,290	1,327	857	843	786	780	800	660	752	NS	NS	708	NS		
S1-8	64	1,118	1,290	1,516	921	931	1,110	880	800	935	800	909	NS	708	NS		
S1-9	77	1,809	2,020	2,085	1,500	337	1,589	1,420	1,750	567	1,480	NS	NS	1,520	NS		
S1-10	48	2,251	2,610	2,540	1,716	1,980	1,800	1,810	1,770	567	1,640	2,001	NS	2,205	1860		
S1-11	120	2,004	2,210	NS	1,500	1,609	1,751	1,810	1,639	2,510	1,548	1,825	NS	2,121	2320		
S1-12	140	2,313	2,390	2,129	1,780	2,056	1,445	2,410	2,210	2,355	NS	1,086	NS	1,850	1860		
S1-13	520	771	930	990	698	836	722	850	790	1,077	1,032	960	NS	678	820		
S1-14	590	1,502	1,077	1,616	1,350	1,293	1,443	1,400	1,550	1,440	1,415	1,000	NS	1,392	1430		
S1-15	5,300	3,373	2,756	2,778	3,030	2,484	2,280	3,490	2,080	2,583	2,600	1,450	NS	2,597	2530		
S1-16	8,900	NS	2,056	2,732	2,256	NS	718	NS	NS	NS	NS	1,744	NS	1,050	330		
S1-17	6,800	627	388	344	314	266	180	230	102	141	90	92	NS	73	76		
S1-18	2,200	90	101	44	86	39	34	36	34	49	36	45	NS	24	37		
S1-19	20	26	37	33	60	25	28	28	25	39	18	22	NS	14	16		
S1-20	120	25	95	141	57	68	50	47	68	60	30	43	NS	21	18		
S1-21	65	113	48	17	29	18	8	19	19	42	8	11	NS	6	3		
S1-22	290	12	6	4	28	14	19	16	44	64	25	31	NS	30	56		
S1-23	350	24	14	27	29	13	21	NS	NS	29	10	20	NS	13	12		
S1-24	250	25	16	16	39	16	18	19	19	42	13	17	NS	13	10		
S1-25	550	26	16	16	28	14	15	15	15	33	13	23	NS	13	13		
S1-26	540	25	25	22	39	15	18	17	17	49	11	16	NS	14	11		
S1-27	220	51	62	60	52	45	42	41	35	88	NS	128	NS	25	31		
S1-28	370	275	29	12	23	14	15	17	15	21	41	18	NS	14	16		
S1-29	670	50	62	23	28	19	20	23	21	33	20	20	NS	16	11		
S1-30	370	51	50	78	38	28	31	32	26	86	42	28	NS	20	22		
S1-31	14	0	57	28	60	15	17	20	17	29	18	25	NS	12	11		
S1-32	18	100	132	85	82	48	49	46	45	73	42	40	NS	35	37		
S1-33	10	101	99	16	25	NS	NS	NS	15	567	12	NS	NS	NS	NS		
S1-34	11	79	90	75	24	NS	13	17	16	18	17	NS	NS	NS	NS		
S1-35	24	25	43	45	64	44	43	19	86	37	46	NS	NS	28	NS		
S1-36	200	60	49	44	45	NS	27	30	43	39	NS	NS	NS	NS	NS		
S1-37	13	50	52	55	57	NS	9	23	35	36	34	NS	NS	NS	NS		
S1-38	59	NS	1,540	6	17	NS	NS	24	22	22	NS	NS	NS	NS	NS		
S1-39	290	15	25	22	21	14	11	14	17	17	10	NS	NS	10	12		
S1-40	150	38	25	33	25	18	15	16	14	17	13	18	NS	18	21		
S1-41	170	1	48	12	17	12	11	11	12	16	NS	NS	NS	10	16		
S1-42	88	0	11	37	13	NS	NS	NS	21	22	NS	NS	NS	NS	NS		
S1-43	4	1	21	NS	19	NS	NS	5	5	14	NS	NS	NS	NS	NS		
S1-44	280	25	19	44	33	23	21	23	21	28	53	NS	NS	9	18		
S1-45	4,400	37	20	30	33	26	NS	17	28	24	18	NS	NS	10	32		
S1-46	480	1	11	10	21	15	NS	34	21	24	6	10	NS	4	11		
S1-47	1,200	150	72	61	60	42	NS	25	46	31	20	NS	NS	24	28		
S1-48	1,200	50	34	31	31	21	NS	35	37	22	22	NS	NS	15	22		
S1-60	48	25	11	15	16	10	NS	10	26	17	11	NS	NS	8	14		
S1-61	NS	NS	NS	NS	NS	NS	758	744	1,028	366	201	152	NS	78	116		
S1-62	NS	NS	NS	NS	NS	NS	125	42	26	27	20	18	NS	20	14		
S1-63	NS	NS	NS	NS	NS	NS	264	256	193	241	149	150	NS	155	120		
S1-64	NS	NS	NS	NS	NS	NS	512	102	63	66	53	55	NS	44	50		

NS = Not Sampled

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Table 4-10

HISTORY OF TOC CONCENTRATIONS AT INT PRODUCTION WELLS																		
Well ID	Baseline Nov-Dec 91 (ppm)	Jan 1994 (ppm)	Feb 1994 (ppm)	Mar 1994 (ppm)	Apr 1994 (ppm)	May 1994 (ppm)	June 1994 (ppm)	July 1994 (ppm)	Aug 1994 (ppm)	Sep 1994 (ppm)	Oct 1994 (ppm)	Nov 1994 (ppm)	Dec 1994 (ppm)	Jan 1995 (ppm)	Feb 1995 (ppm)			
INT-1	3,600	1,050	718	800	608	507	374	375	290	320	252	253	NS	204	270			
INT-2	1,800	174	230	290	301	343	339	602	288	281	426	214	NS	91	492			
INT-3	5,200	2,080	1,926	1,188	1,362	1,058	1,260	1,548	1,092	932	972	1,550	NS	1,016	940			
INT-4	610	587	1,300	1,300	990	992	541	594	542	430	398	NS	NS	198	180			
INT-5	960	263	248	205	159	94	101	92	70	103	86	90	NS	76	70			
INT-6	280	720	451	510	312	210	200	135	180	195	105	100	NS	76	72			
INT-7	100	99	74	99	104	117	140	147	129	101	109	38	NS	120	123			
INT-8	75	112	103	84	87	62	60	56	53	64	46	43	NS	47	45			
INT-9	800	188	174	142	105	78	77	68	69	70	65	NS	NS	68	58			
INT-10	1,900	100	93	112	96	65	62	NS	52	82	56	135	NS	45	45			
INT-11	590	175	186	NS	85	11	44	NS	NS	113	44	31	NS	31	27			
INT-12	3,300	364	239	106	123	66	105	65	48	74	26	23	NS	32	16			
INT-13	590	99	67	63	50	47	89	50	28	50	31	23	NS	34	12			
INT-14	24	226	154	112	162	62	NS	61	84	119	59	53	NS	39	50			
INT-15	19	12	34	20	19	14	19	13	30	47	13	18	NS	17	16			
INT-16	2,000	13	12	15	13	9	11	7	10	68	5	9	NS	6	11			
INT-17	7	152	25	13	15	12	NS	9	8	19	6	14	NS	8	14			
INT-18	4	225	230	162	137	76	73	64	51	57	38	29	NS	24	20			
INT-19	1,400	112	76	55	55	43	36	NS	NS	38	39	39	NS	56	49			
INT-20	3,500	2,147	1,960	2,525	1,844	2,112	1,922	1,930	1,810	1,182	1,500	NS	NS	1,480	1,476			
INT-21	29	362	327	240	217	214	214	356	204	190	126	NS	NS	204	132			
INT-22	8	43	58	55	32	41	44	85	101	95	74	NS	NS	117	135			
INT-23	16	48	53	40	32	26	50	241	153	112	68	NS	NS	35	40			
INT-24	240	202	174	136	111	85	89	95	84	84	61	65	NS	58	56			
INT-25	36	75	60	65	62	32	24	30	25	29	21	NS	NS	20	18			
INT-26	120	203	173	152	131	113	38	111	108	122	112	123	NS	110	108			
INT-27	180	75	109	116	104	82	85	NS	83	78	75	80	NS	65	75			
INT-28	630	187	80	48	51	53	34	38	32	37	22	23	NS	22	26			
INT-29	1,100	162	130	104	58	78	65	83	59	76	79	58	NS	35	40			
INT-30	1,400	112	60	32	28	22	32	26	31	45	38	24	NS	27	20			
INT-31	70	12	67	52	41	32	25	30	30	82	20	30	NS	20	19			
INT-32	880	124	26	16	29	20	24	23	25	22	11	11	NS	12	16			
INT-33	120	1,374	1,006	255	109	61	47	38	29	20	12	17	NS	10	9			
INT-55	NS	235	113	115	76	147	98	141	109	122	76	61	NS	65	48			
INT-56	NS	901	824	925	153	515	435	350	314	297	213	146	NS	132	120			
INT-57	NS	12	29	40	24	58	61	74	40	66	64	51	NS	75	68			
INT-58	NS	10	94	76	67	54	46	44	45	34	32	33	NS	28	29			
INT-59	NS	100	104	115	81	50	77	45	112	79	72	49	NS	50	42			
INT-60	NS	201	169	195	151	124	118	114	111	110	91	85	NS	86	80			
INT-61	NS	79	80	95	54	59	48	43	38	39	31	40	NS	31	31			
INT-62	NS	75	197	100	65	36	38	30	56	35	28	43	NS	29	20			
INT-65	NS	NS	NS	NS	NS	NS	65	116	61	66	54	61	NS	51	41			
INT-66	NS	125	132	175	161	97	113	66	83	120	128	94	NS	94	85			
INT-205	NS	39	132	120	50	34	39	40	36	61	39	39	NS	34	34			
INT-206	NS	218	48	44	45	38	53	75	110	107	87	86	NS	68	60			
INT-207	NS	101	71	56	58	38	52	47	29	45	54	60	NS	74	92			
INT-208	NS	19	53	20	24	16	38	19	20	22	16	16	NS	11	18			
INT-209	NS	40	62	52	51	50	43	46	50	37	20	19	NS	13	17			
INT-210	NS	42	48	24	29	25	22	72	32	27	22	28	NS	23	26			
INT-211	NS	151	127	88	89	55	57	53	76	43	41	46	NS	29	41			
INT-212	NS	NS	NS	NS	NS	NS	36	24	22	27	29	38	NS	41	38			
INT-213	NS	NS	NS	NS	NS	NS	36	135	45	83	144	70	NS	91	143			
INT-214	NS	NS	NS	NS	NS	NS	35	68	47	46	32	31	NS	22	26			
INT-215	NS	NS	NS	NS	NS	NS	170	174	94	82	46	82	NS	56	67			
INT-216	NS	NS	NS	NS	NS	NS	22	21	24	34	22	28	NS	26	34			
INT-217	NS	NS	NS	NS	NS	NS	62	61	81	66	59	61	NS	60	62			

NS = Not Sampled

Averages																		
S1	784	513	579	565	449	445	484	448	395	387	377	439	NS	451	336			
INT	957	290	263	236	180	168	148	170	138	125	114	89	NS	100	105			

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French Ltd. Project
FLTG, Incorporated

Table 4-11

Water Level Measurements

Water Level Measurements 1/2/95 to 1/4/95				Water Level Measurements 2/7/95 to 2/9/95			
Well ID	DTW (ft)	TOC (ft MSL)	WL (ft MSL)	Well ID	DTW (ft)	TOC (ft MSL)	WL (ft MSL)
ERT-01	21.89	18.65	-3.24	ERT-01	10.67	18.65	7.98
ERT-02		18.43	NM	ERT-02		18.43	NM
ERT-03	18.70	15.53	-3.17	ERT-03	7.78	15.53	7.77
ERT-07	18.74	17.96	-0.78	ERT-07		17.96	NM
ERT-08	19.04	18.34	-0.70	ERT-08	12.82	18.34	5.52
ERT-09	21.50	18.52	-2.98	ERT-09	10.95	18.52	7.57
ERT-10		18.54	NM	ERT-10		18.54	NM
ERT-20		11.66	NM	ERT-20	8.58	11.66	3.08
ERT-21		13.63	NM	ERT-21	6.72	13.63	6.91
ERT-22		11.66	NM	ERT-22	9.44	11.66	2.22
ERT-23	5.84	15.85	10.01	ERT-23	5.50	15.85	10.35
ERT-24	5.07	12.98	7.91	ERT-24	4.91	12.98	8.07
ERT-25	4.91	15.18	10.27	ERT-25	5.00	15.18	10.18
ERT-26	5.27	15.77	10.50	ERT-26	5.36	15.77	10.41
ERT-27	3.66	18.67	15.01	ERT-27	3.51	18.67	15.16
ERT-28	11.11	22.11	11.00	ERT-28	10.84	22.11	11.47
ERT-29	10.07	21.88	11.59	ERT-29	9.88	21.88	11.98
ERT-30	13.91	19.84	5.73	ERT-30	13.90	19.84	5.74
ERT-33	4.98	15.29	10.31	ERT-33	5.84	15.29	9.65
ERT-34	5.20	15.56	10.36	ERT-34	5.83	15.56	9.73
FLTG-01	2.25	9.84	7.59	FLTG-01	2.55	9.84	7.29
FLTG-02	0.40	9.51	9.11	FLTG-02	0.48	9.51	9.03
FLTG-03	3.00	10.96	7.96	FLTG-03	3.52	10.96	7.44
FLTG-04	2.36	11.28	8.92	FLTG-04	2.78	11.28	8.50
FLTG-05	2.53	11.80	9.27	FLTG-05	3.27	11.80	8.53
FLTG-06	2.72	12.02	9.30	FLTG-06	3.81	12.02	8.41
FLTG-07	6.06	13.31	7.25	FLTG-07	5.88	13.31	7.43
FLTG-08		13.10	NM	FLTG-08	5.08	13.10	8.02
FLTG-09	4.34	14.80	10.46	FLTG-09	5.20	14.80	9.60
FLTG-10	4.35	14.87	10.52	FLTG-10	5.35	14.87	9.52
FLTG-11	4.40	15.36	10.96	FLTG-11		15.36	NM
FLTG-12	4.40	15.28	10.88	FLTG-12		15.28	NM
FLTG-13	0.24	12.02	11.78	FLTG-13	0.95	12.02	11.07
FLTG-14	1.13	11.51	10.38	FLTG-14	1.70	11.51	9.81
FLTG-15	3.45	12.53	9.08	FLTG-15	3.55	12.53	8.98
INT-059-P1	12.87	11.84	-1.23	INT-059-P1	14.40	11.84	-2.76
INT-059-P2		11.88	NM	INT-059-P2		11.88	NM
INT-059-P4	8.65	11.67	3.02	INT-059-P4	8.92	11.67	2.75
INT-060-P1	22.06	12.02	-10.04	INT-060-P1	22.27	12.02	-10.25
INT-060-P2		11.99	NM	INT-060-P2		11.99	NM
INT-060-P4	8.25	12.03	3.78	INT-060-P4	8.40	12.03	3.83
INT-101	11.55	13.12	1.57	INT-101	8.81	13.12	4.31
INT-102	10.80	14.92	4.12	INT-102	10.90	14.92	4.02
INT-103	0.83	11.86	11.03	INT-103	1.55	11.86	10.31
INT-104	2.49	13.43	10.94	INT-104	3.99	13.43	9.44
INT-105	4.78	12.84	7.86	INT-105	4.12	12.84	8.52
INT-106	5.77	11.59	5.82	INT-106	4.95	11.59	6.84
INT-107	6.80	14.94	8.14	INT-107	7.21	14.94	7.73
INT-108	12.36	13.50	1.14	INT-108	12.03	13.50	1.47
INT-109	8.93	11.84	2.91	INT-109	8.18	11.84	3.88
INT-110	11.49	12.81	1.32	INT-110	11.87	12.81	0.94
INT-111	10.72	11.60	0.88	INT-111	10.59	11.60	1.01
INT-112	11.38	12.75	1.37	INT-112	11.02	12.75	1.73
INT-113	13.00	15.71	2.71	INT-113	12.65	15.71	3.06

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MONTHLY PROGRESS REPORT
Groundwater and Subsoil Remediation

French Ltd. Project
FLTG, Incorporated

Table 4-11 (Continued)**Water Level Measurements**

Water Level Measurements 1/2/95 to 1/4/95				Water Level Measurements 2/7/95 to 2/9/95			
Well ID	DTW (ft)	TOC (ft MSL)	WL (ft MSL)	Well ID	DTW (ft)	TOC (ft MSL)	WL (ft MSL)
INT-114	11.23	11.55	0.32	INT-114	10.09	11.55	1.46
INT-115	6.43	15.16	8.73	INT-115	6.70	15.16	8.48
INT-116	10.76	14.81	4.05	INT-116	10.78	14.81	4.03
INT-117	18.75	20.96	2.21	INT-117	18.80	20.96	2.18
INT-118	8.59	19.53	10.94	INT-118	8.47	19.53	11.06
INT-119	8.70	15.45	6.75	INT-119	9.20	15.45	6.25
INT-120	15.05	NM	INT-120	17.18	15.05	-2.13	
INT-121	15.25	NM	INT-121	14.48	15.25	0.77	
INT-122	15.37	NM	INT-122	13.32	15.37	2.05	
INT-123	15.05	NM	INT-123		15.05	NM	
INT-124	14.40	NM	INT-124	5.99	14.40	8.41	
INT-125	13.67	NM	INT-125	12.40	13.67	1.27	
INT-126	11.72	NM	INT-126	8.04	11.72	3.68	
INT-127	11.12	NM	INT-127	7.24	11.12	3.88	
INT-128	11.15	NM	INT-128	6.14	11.15	5.01	
INT-129	5.14	NM	INT-129	12.38	5.14	-7.24	
INT-130	11.21	NM	INT-130	13.76	11.21	-2.55	
INT-131	5.83	NM	INT-131	6.70	5.83	-0.87	
INT-132	19.31	14.96	-4.35	INT-132	14.96	14.96	0.00
INT-133	20.58	18.89	-3.69	INT-133	19.67	18.89	-2.78
INT-134	25.32	16.79	-8.53	INT-134	24.62	18.79	-7.83
INT-135	30.58	17.99	-12.59	INT-135	30.22	17.99	-12.23
INT-136	19.09	14.40	-4.69	INT-136	14.32	14.40	0.08
INT-137	27.05	19.25	-7.80	INT-137	27.04	19.25	-7.79
INT-138	23.64	20.18	-3.46	INT-138	23.69	20.18	-3.51
INT-139	23.78	19.97	-3.81	INT-139	23.38	19.97	-3.41
INT-140	19.72	13.79	-5.83	INT-140	14.25	13.79	-0.48
INT-141	20.83	14.98	-5.85	INT-141	15.10	14.98	-0.12
INT-142	24.44	17.53	-6.91	INT-142	17.14	17.53	0.39
INT-143	6.49	15.32	8.83	INT-143	7.12	15.32	8.20
INT-144	18.04	16.06	-1.98	INT-144	18.06	18.06	-2.00
INT-145	18.74	16.55	-2.19	INT-145	18.81	16.55	-2.26
INT-146	18.72	16.54	-2.18	INT-146	18.75	16.54	-2.21
P-5	12.60	15.11	2.51	P-5	12.86	15.11	2.25
P-6	14.31	18.34	4.03	P-6		18.34	NM
REI-03-2		12.47	NM	REI-03-2		12.47	NM
REI-03-3		13.14	NM	REI-03-3		13.14	NM
REI-03-4		13.99	NM	REI-03-4	71.92	13.99	-57.93
REI-7		13.38	NM	REI-7	71.10	13.38	-57.72
REI-10-2		14.15	NM	REI-10-2	9.07	14.15	5.08
REI-10-3	12.28	15.12	2.84	REI-10-3	11.61	15.12	3.51
REI-11		11.78	NM	REI-11	69.51	11.78	-57.73
REI-12-2	5.18	12.27	7.11	REI-12-2	5.18	12.27	7.11
REI-3-1		13.44	NM	REI-3-1	5.02	13.44	8.42
S1-050-P1	8.56	12.75	4.19	S1-050-P1	8.56	12.75	4.19
S1-050-P2		12.05	NM	S1-050-P2		12.05	NM
S1-050-P3	8.48	12.83	4.35	S1-050-P3	8.15	12.83	4.68
S1-051-P1	9.25	12.68	3.43	S1-051-P1		12.68	NM
S1-051-P2		12.91	NM	S1-051-P2		12.91	NM
S1-051-P3	8.56	12.20	3.64	S1-051-P3	8.77	12.20	3.43
S1-101	3.41	12.77	9.38	S1-101	2.79	12.77	9.98
S1-102	12.67	15.64	2.97	S1-102	11.49	15.64	4.15
S1-103	12.93	15.04	2.11	S1-103	9.12	15.04	5.92
S1-104	5.14	12.98	7.84	S1-104	5.92	12.98	7.06

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French Ltd. Project
FLTG, Incorporated

Table 4-11 (Continued)

Water Level Measurements

Water Level Measurements 1/2/95 to 1/4/95				Water Level Measurements 2/7/95 to 2/9/95			
Well ID	DTW (ft)	TOC (ft MSL)	WL (ft MSL)	Well ID	DTW (ft)	TOC (ft MSL)	WL (ft MSL)
S1-105	1.92	11.89	9.97	S1-105	5.00	11.89	6.89
S1-106	5.88	13.97	8.09	S1-106	4.81	13.97	9.16
S1-107	4.65	14.44	9.79	S1-107	5.10	14.44	9.34
S1-108	4.27	12.58	8.31	S1-108	2.92	12.58	9.66
S1-109	5.56	12.51	6.95	S1-109	5.72	12.51	6.79
S1-110	8.24	11.77	3.53	S1-110	8.37	11.77	3.40
S1-111	3.69	12.39	8.70	S1-111	7.42	12.39	4.97
S1-112	6.86	12.53	5.67	S1-112	6.01	12.53	6.52
S1-113	2.93	12.12	9.13	S1-113	2.79	12.12	9.33
S1-114	6.79	15.02	8.23	S1-114	7.12	15.02	7.90
S1-115	4.34	13.27	8.93	S1-115	4.44	13.27	8.83
S1-116	6.08	15.37	9.29	S1-116	6.23	15.37	9.14
S1-117	11.42	21.48	10.06	S1-117	11.41	21.48	10.07
S1-118		18.99	NM	S1-118	7.25	18.99	11.74
S1-119		5.34	NM	S1-119	7.82	5.34	-2.48
S1-120		6.21	NM	S1-120	13.25	6.21	-7.04
S1-121		6.13	NM	S1-121	11.70	6.13	-5.57
S1-122		3.59	NM	S1-122	13.00	3.59	-9.41
S1-123		10.70	NM	S1-123	7.82	10.70	3.08
S1-124		5.58	NM	S1-124	5.38	5.58	0.20
S1-125		5.24	NM	S1-125	5.10	5.24	0.14
S1-126		5.49	NM	S1-126	5.45	5.49	0.04
S1-127		4.88	NM	S1-127	7.80	4.88	-2.72
S1-128		5.12	NM	S1-128	7.18	5.12	-2.06
S1-129		5.44	NM	S1-129	6.20	5.44	-0.76
S1-130		5.85	NM	S1-130	5.84	5.85	0.01
S1-131		5.47	NM	S1-131	5.35	5.47	0.12
S1-132		4.49	NM	S1-132	9.12	4.49	-4.83
S1-133		5.26	NM	S1-133	3.04	5.26	2.22
S1-134		5.98	NM	S1-134	3.50	5.98	2.48
S1-135	5.45	18.02	12.57	S1-135	5.29	18.02	12.73
S1-137	6.87	19.10	12.23	S1-137	6.82	19.10	12.58
S2-101	72.22	16.53	-55.69	S2-101	71.96	16.53	-55.43
SG-1		9.88	NM	SG-1	9.88	NM	
SG2 (Cell D)				SG2 (Cell D)	2.54		
SG-3		1.27	NM	SG-3	6.45	1.27	-5.18
SG4 (E Pond)				SG4 (E Pond)			
SG-5	9.58	5.33	-4.25	SG-5	9.50	5.33	-4.17
W-3	20.23	18.53	-1.70	W-3	20.15	18.53	-1.62
W-4	20.94	18.51	-2.43	W-4		18.51	NM
W-6	22.06	18.51	-3.55	W-6		18.51	NM
W-7	20.04	18.34	-1.70	W-7	14.46	18.34	3.88

TOC (top of casing) based on latest survey data.
Survey records are in AHA database.

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French Ltd. Project
FLTG, Incorporated

Table 4-12

Dissolved Oxygen at Production Wells

Well	7/1/94	7/30-8/3/94	9/1/94	10/1/94	11/23/94	1/1/95	2/1/95
S1-1	0.6	0.5	2.1	2.2	0.8	1.6	NM
S1-2	0.5	0.2	1.7	1.4	1.6	1.1	NM
S1-3	0.8	0.2	1.8	1.2	1.0	1.1	NM
S1-4	0.4	0.2	2.0	1.4	0.8	0.9	NM
S1-5	NM	NM	NM	NM	NM	1.6	NM
S1-6	0.3	0.1	1.6	3.6	NM	0.8	NM
S1-7	0.5	0.2	1.3	1.8	NM	1.2	NM
S1-8	0.5	0.2	1.1	1.2	0.7	0.8	NM
S1-9	0.7	0.1	0.8	5.0	NM	1.5	NM
S1-10	0.4	0.1	0.6	2.6	0.5	1.0	0.9
S1-11	0.7	2.1	1.1	1.4	0.9	1.4	1.2
S1-12	0.8	0.5	1.1	NM	1.3	1.5	1.9
S1-13	0.7	0.8	1.7	5.2	1.3	1.5	4.6
S1-14	0.7	0.1	1.1	3.0	0.4	0.8	0.9
S1-15	0.6	0.2	1.4	1.4	0.7	0.7	0.9
S1-16	NM	NM	NM	NM	1.2	2.9	2.9
S1-17	0.8	1.5	1.2	2.4	0.8	1.4	1
S1-18	2.0	1.5	2.4	2.2	1.4	2.2	1.1
S1-19	4.9	1.4	3.4	7.0	3.9	6.6	3
S1-20	5.8	1.5	1.6	7.4	1.7	3.2	5.3
S1-21	10.4	12.2	15+	15+	15+	15+	15+
S1-22	15+	2.4	1.5	2.3	0.7	1.6	0.8
S1-23	NM	NM	1.9	13.2	1.5	4.8	0.9
S1-24	10.5	8.9	0.9	2.0	2.6	1.8	1
S1-25	1.6	0.6	0.8	3.2	0.8	1.4	0.7
S1-26	2.6	3.2	2.2	3.0	0.7	1.1	2
S1-27	1.6	1.0	1.4	NM	1.9	2.0	1
S1-28	2.4	0.9	1.2	1.8	1.2	1.7	0.8
S1-29	1.6	1.0	1.9	2.6	2.2	4.4	2.5
S1-30	1.0	0.8	1.5	2.2	1.1	4.2	0.5
S1-31	1.5	1.0	1.8	4.2	1.6	1.2	1
S1-32	1.2	0.3	1.4	0.8	1.5	1.6	0.5
S1-33	NM	1.7	1.4	NM	NM	NM	NM
S1-34	1.0	1.8	1.2	1.6	NM	NM	NM
S1-35	0.7	0.5	1.7	1.8	NM	1.5	NM
S1-36	1.0	1.6	0.9	NM	NM	NM	NM
S1-37	2.0	1.4	1.3	1.4	NM	NM	NM
S1-38	NM	12.0	15+	NM	NM	NM	NM
S1-39	1.3	0.5	1.3	2.6	2.9	3.2	3
S1-40	0.7	0.5	2.2	1.6	1.0	2.0	0.9
S1-41	1.8	1.0	1.0	NM	1.0	1.4	1
S1-42	NM	6.8	14.0	NM	NM	NM	NM
S1-43	1.6	2.0	2.2	NM	NM	NM	NM
S1-44	10.0	14.2	1.8	2.0	6.0	1.8	6.7
S1-45	5.2	6.4	2.9	2.0	2.3	5.1	3.2
S1-46	13.5	15+	13.5	15+	15+	15+	15+
S1-47	5.8	1.8	9.6	14.8	8.7	5.4	14.2
S1-48	2.0	1.2	5.3	5.7	4.2	5.0	4.4
S1-60	1.8	5.7	6.1	7.0	4.4	5.6	5.1
S1-61	1.3	0.8	1.1	2.0	0.8	1.2	0.8
S1-62	0.8	1.1	1.4	2.9	2.8	12.6	15+
S1-63	1.0	2.2	2.2	1.9	0.9	4.0	1.3
S1-64	2.0	4.0	2.4	4.6	1.8	4.1	2.8

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**MONTHLY PROGRESS REPORT
Groundwater and Subsoil Remediation**

**French Ltd. Project
FLTG, Incorporated**

Table 4-12 (Continued)**Dissolved Oxygen at Production Wells**

Well	7/1/94	7/30-8/3/94	9/1/94	10/1/94	11/23/94	1/1/95	2/1/95
INT-1	1.0	0.8	1.1	1.6	1.4	3.0	0.6
INT-2	1.7	0.2	1.5	1.4	0.8	0.8	0.8
INT-3	0.8	0.2	1.0	1.4	1.0	1.4	0.3
INT-4	0.5	0.1	0.9	1.6	1.1	1.2	0.4
INT-5	1.8	1.1	2.3	1.9	1.1	1.0	0.8
INT-6	1.2	0.4	0.7	1.6	1.3	1.4	0.8
INT-7	1.3	0.3	1.5	2.6	1.0	0.6	0.6
INT-8	1.5	0.3	1.8	3.0	1.0	1.9	1.1
INT-9	1.8	0.5	1.2	1.8	NM	1.4	0.8
INT-10	NM	2.6	1.9	3.6	1.4	1.7	1.2
INT-11	NM	NM	1.1	4.4	2.2	3.4	3.4
INT-12	13.8	15+	2.2	18.0	13.8	13.8	15+
INT-13	5.4	4.0	0.9	5.8	7.8	1.6	2.1
INT-14	1.2	1.0	1.8	2.6	1.7	1.7	2.1
INT-15	1.8	1.0	1.4	2.6	1.6	2.0	1.3
INT-16	2.5	1.6	2.1	2.0	3.0	1.8	1.6
INT-17	2.0	2.6	2.9	3.2	2.2	2.6	3.4
INT-18	1.2	1.2	1.8	1.8	1.2	1.5	2
INT-19	NM	NM	2.4	1.9	1.4	1.1	1.3
INT-20	1.2	0.1	1.3	2.0	0.9	1.2	0.7
INT-21	2.0	2.0	1.7	2.4	2.6	3.0	2.5
INT-22	2.0	0.6	0.8	1.6	1.0	1.1	1.4
INT-23	1.2	0.4	1.1	1.4	2.4	2.3	3.9
INT-24	1.2	0.8	1.8	2.6	2.0	2.6	2.9
INT-25	6.0	12.5	12.5	14.2	15+	10.2	11.4
INT-26	2.8	0.8	1.4	3.0	1.6	2.3	1
INT-27	NM	1.1	1.6	1.8	1.2	1.4	2.3
INT-28	2.4	3.3	5.2	6.2	7.4	4.6	1.9
INT-29	5.6	3.8	5.2	4.8	4.0	4.4	4.4
INT-30	10.2	8.4	9.5	7.2	9.4	1.8	11.5
INT-31	5.7	6.5	1.4	7.0	4.1	5.3	4.1
INT-32	15+	15+	15+	15+	15+	15+	15+
INT-33	2.0	2.1	2.5	2.8	1.9	2.5	4.4
INT-55	4.1	1.6	3.4	2.8	2.0	2.2	1
INT-56	1.0	0.6	1.2	1.8	1.5	1.6	1.1
INT-57	1.1	7.1	6.2	3.2	2.8	3.1	2.4
INT-58	1.4	1.1	1.8	2.6	1.9	1.6	1
INT-59	2.4	2.3	2.2	2.4	2.4	3.0	2.1
INT-60	1.0	1.1	1.8	4.0	1.9	2.4	2.9
INT-61	2.0	2.2	2.7	3.8	1.8	2.6	2.9
INT-62	4.0	2.0	1.0	4.4	2.1	2.6	2.9
INT-65	1.6	1.1	2.1	1.8	1.0	1.2	1.8
INT-66	2.1	2.6	2.2	1.8	1.0	3.1	1.7
INT-205	1.4	0.3	1.8	3.4	1.8	2.8	2.2
INT-206	1.6	0.4	1.1	1.8	2.4	1.2	1.1
INT-207	1.0	0.8	4.6	2.2	1.0	1.2	1.6
INT-208	1.6	0.8	1.3	3.2	3.4	11.8	5.4
INT-209	1.8	14.5	2.8	9.0	15+	14.8	15+
INT-210	15+	15+	15+	15+	15+	15+	15+
INT-211	1.2	9.1	1.9	3.0	2.0	2.0	1.4
INT-212	4.1	1.5	1.6	3.0	2.2	1.8	1.8
INT-213	0.8	0.7	1.2	2.0	1.2	2.0	2.3
INT-214	2.8	1.3	3.8	4.8	4.6	2.8	3.8

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Groundwater and Subsoil Remediation

French Ltd. Project
FLTG, Incorporated

Table 4-12 (Continued)

Dissolved Oxygen at Production Wells

Well	7/1/94	7/30-8/3/94	9/1/94	10/1/94	11/23/94	1/1/95	2/1/95
INT-215	3.4	4.0	5.2	3.8	3.6	3.0	4.6
INT-216	2.9	15+	3.4	4.4	4.2	2.7	3.7
INT-217	1.1	1.0	1.6	1.4	1.2	1.8	1.8

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French Ltd. Project
FLTG. Incorporated

Table 4-13

Dissolved Oxygen at Monitoring Wells

	3/4/94	4/5/94	5/2/94	6/1/94	7/3/94	7/31/94	9/2/94	10/1/94	12/15/94	2/7/95
ERT-1	1.0	0.8	1.4	0.8	0.8	0.2	0.2	1.1	1.2	NM
ERT-3	1.0	0.8	1.2	1.0	1.2	0.4	0.2	0.7	1.8	NM
ERT-7	1.0	1.1	0.6	0.6	0.8	0.2	0.2	1.5	NM	NM
ERT-8	1.0	1.2	0.3	0.6	0.7	0.2	0.2	1.0	2.2	NM
ERT-9	1.0	1.1	0.5	1.3	1.0	0.3	0.4	NM	NM	NM
ERT-23	1.8	0.6	0.6	0.8	NM	NM	NM	NM	0.7	NM
ERT-24	0.8	0.8	1.2	NM	NM	NM	NM	NM	2.0	NM
ERT-25	1.8	0.7	1.2	1.0	NM	NM	NM	NM	1.6	NM
ERT-26	0.8	1.7	0.5	NM	NM	NM	NM	NM	2.3	NM
ERT-27	1.9	0.6	1.0	NM	NM	NM	NM	NM	NM	NM
ERT-28	6.4	1.8	1.4	NM	NM	NM	NM	NM	4.8	NM
ERT-29	1.2	1.0	0.9	NM	NM	NM	NM	NM	NM	NM
ERT-30	7.5	4.8	5.6	NM	NM	NM	NM	NM	NM	NM
ERT-33	1.1	0.8	0.5	0.4	0.2	0.2	NM	NM	1.1	NM
ERT-34	0.9	0.6	0.2	0.6	1.0	0.1	NM	NM	NM	NM
FLTG-1	0.8	0.6	0.2	0.3	NM	NM	NM	NM	3.6	NM
FLTG-2	1.0	0.7	0.8	1.2	NM	NM	NM	NM	NM	NM
FLTG-3	1.3	1.0	0.5	0.8	NM	NM	NM	NM	NM	NM
FLTG-4	1.0	0.7	0.9	0.6	NM	NM	NM	NM	NM	NM
FLTG-5	0.8	1.0	0.6	0.4	NM	NM	NM	NM	3.0	NM
FLTG-6	1.2	0.8	1.8	1.6	NM	NM	NM	NM	NM	NM
FLTG-7	1.6	0.7	0.8	0.6	0.1	0.1	0.8	0.4	2.0	0.4
FLTG-8	1.7	0.6	1.3	0.8	0.6	0.0	0.4	0.4	2.5	0.4
FLTG-9	1.2	3.7	9.4	11.4	14.5	10.9	15+	NM	NM	15+
FLTG-10	1.1	1.0	1.2	2.2	0.6	1.6	2.6	4.6	3.2	1.2
FLTG-11	0.6	0.6	0.6	0.6	0.4	0.3	0.5	0.6	NM	NM
FLTG-12	0.8	0.8	1.2	1.8	0.8	0.8	0.6	0.6	NM	NM
FLTG-13	0.3	0.7	0.8	0.8	0.8	0.2	0.4	0.6	2.6	1.3
FLTG-14	0.6	0.5	1.0	0.8	0.4	0.3	0.4	0.4	2.4	0.2
FLTG-15	0.8	0.8	1.0	1.2	NM	NM	NM	NM	2.4	NM
INT-59-P1	1.6	0.5	0.6	0.5	1.2	0.8	0.6	0.8	NM	1.2
INT-59-P4	1.4	0.6	1.2	0.9	0.5	0.7	0.6	0.6	NM	0.6
INT-60-P1	1.7	0.6	1.2	1.0	1.0	0.2	0.4	0.8	NM	0.2
INT-60-P4	1.4	0.7	1.2	0.8	1.4	0.4	0.4	0.6	NM	0.5
INT-101	1.0	0.6	0.6	0.4	0.8	0.4	0.2	0.8	2.6	0.3
INT-102	0.6	0.6	0.8	0.6	1.4	1.8	NM	20.6	15.0	15+
INT-103	2.2	0.8	0.5	0.7	0.8	1.4	0.1	NM	1.3	0.2
INT-104	2.3	1.4	1.0	4.8	0.5	3.3	0.3	5.4	4.6	3.2
INT-105	1.2	0.4	0.6	0.7	0.02	0.2	0.4	8.7	4.6	0.4

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Table 4-13 (Continued)

Dissolved Oxygen at Monitoring Wells

	3/4/94	4/5/94	5/2/94	6/1/94	7/3/94	7/31/94	9/2/94	10/1/94	12/15/94	2/7/95
INT-106	15+	15+	15+	15+	15+	15+	15+	19.8	15.0	4.7
INT-107	15+	15+	15+	15+	15+	15+	15+	30.4	15.0	15+
INT-108	1.1	0.5	0.9	0.2	0.8	0.2	0.2	1.3	2.1	1.7
INT-109	1.6	0.8	1.4	0.8	0.04	0.1	0.5	14.5	2.2	0.2
INT-110	1.6	0.9	1.3	0.9	0.5	0.1	0.8	2.2	0.8	0.4
INT-111	1.2	0.8	1.2	1.4	1.0	0.7	2.0	2.5	2.8	1.4
INT-112	15+	15+	15+	15+	15+	15+	15+	39.8	15.0	15+
INT-113	0.9	0.3	15+	15+	15+	8.6	15+	34.9	10.3	2.0
INT-114	1.6	0.6	0.8	0.8	1.1	0.8	0.4	2.1	1.5	0.2
INT-115	1.2	0.6	0.2	1.0	5.7	0.3	0.8	1.8	4.6	0.7
INT-116	2.4	3.4	3.0	3.8	NM	NM	NM	NM	2.4	NM
INT-117	2.7	1.9	2.6	2.8	NM	NM	NM	NM	3.1	NM
INT-118	4.8	3.8	3.2	2.2	NM	NM	NM	NM	2.0	NM
INT-119	1.1	0.5	0.8	0.7	0.2	0.6	1.1	1.0	1.1	0.3
INT-132	2.0	0.7	2.0	1.8	1.0	0.7	0.4	0.5	3.6	0.7
INT-133	0.8	0.6	1.2	1.2	0.4	0.4	0.5	0.8	1.9	0.6
INT-134	0.6	0.6	0.8	0.6	0.4	0.3	0.6	0.4	1.8	0.6
INT-135	0.6	0.8	0.5	0.8	0.4	0.5	0.6	5.1	6.8	0.7
INT-137	1.0	1.5	1.8	1.8	1.0	0.8	0.8	0.4	3.1	2.4
INT-138	0.8	0.7	1.6	0.8	0.6	0.4	0.4	2.3	2.3	0.6
INT-139	0.6	0.4	1.3	0.8	0.2	0.2	0.9	0.5	1.1	0.5
P-5	1.0	0.7	0.6	0.4	1.5	0.3	0.1	0.2	0.6	0.2
P-6	1.0	0.4	0.2	0.6	2.6	0.2	0.3	NM	NM	NM
REI-10-2	1.2	0.8	0.6	0.8	0.9	0.3	0.4	0.4	1.1	0.2
REI-10-3	0.6	0.4	0.8	0.8	1.2	0.4	0.3	1.2	0.8	0.3
REI-12-2	0.8	3.4	2.3	2.0	NM	NM	NM	NM	2.4	NM
S1-101	1.1	0.6	0.6	0.6	1.4	0.4	0.2	0.1	0.8	0.2
S1-102	1.6	0.7	0.5	0.6	1.4	0.3	0.4	0.6	0.5	0.2
S1-103	0.8	2.8	1.1	6.6	8.2	2.6	2.3	0.1	1.2	0.2
S1-104	1.6	1.0	0.6	0.8	0.8	0.0	1.8	3.5	3.8	15+
S1-105	15+	1.1	12.8	15+	1.6	5.8	0.2	4.6	1.4	6.8
S1-106	0.8	0.8	0.8	0.8	0.4	0.3	0.4	0.6	0.6	0.1
S1-107	5.4	9.8	14.2	15+	15+	6.0	15+	16.0	15.0	15+
S1-108	1.6	1.2	0.9	0.0	0.05	0.2	0.6	0.7	15.0	15+
S1-109	8.4	15+	15+	15+	15+	15+	15+	29.4	5.2	15+
S1-110	1.3	1.0	0.6	1.4	0.03	0.3	0.6	0.3	0.6	0.2
S1-111	2.0	1.0	1.0	0.8	0.5	0.2	15+	22.0	15.0	15+
S1-112	0.6	1.0	1.2	1.4	1.0	0.4	0.7	0.4	2.4	0.2
S1-113	1.8	0.7	1.0	0.8	0.4	0.5	0.4	1.0	2.7	0.5

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Table 4-13 (Continued)

Dissolved Oxygen at Monitoring Wells

	3/4/94	4/5/94	5/2/94	6/1/94	7/3/94	7/31/94	9/2/94	10/1/94	12/15/94	2/7/95
S1-114	0.8	0.8	0.7	1.2	1.0	0.3	0.4	0.6	1.5	0.4
S1-115	1.8	0.6	0.8	1.6	NM	NM	NM	NM	3.2	NM
S1-116	0.8	0.8	0.7	0.7	NM	NM	NM	NM	2.1	NM
S1-117	2.0	2.0	1.2	2.3	NM	NM	NM	NM	2.9	NM
S1-118	1.6	0.6	1.2	0.6	NM	NM	NM	NM	3.4	NM
S1-135	1.2	0.8	0.8	1.3	0.5	0.2	0.2	0.3	0.8	NM
S1-137	1.0	0.8	1.4	1.0	0.8	0.4	0.8	0.8	1.0	NM
S1-50-P1	15+	15+	15+	1.7	0.6	15+	15+	18.3	NM	NM
S1-50-P3	15+	15+	15+	15+	0.4	15+	11.6	16.5	NM	1.6
S1-51-P1	1.0	0.2	15+	1.3	15+	0.4	15+	14.6	NM	NM
S1-51-P3	1.5	0.7	1.2	0.8	0.04	0.6	0.6	0.3	NM	0.3
S2-101	NM	NM	NM	NM	NM	NM	NM	0.8	3.8	NM
SG-1	NM	NM	NM	NM	6.2	NM	NM	NM	NM	NM
SG-2	NM	NM	NM	NM	4.1	NM	NM	7.6	NM	NM
SG-3	NM	NM	NM	NM	6.8	6.3	NM	3.2	NM	NM
SG-4	NM	NM	NM	NM	NM	NM	NM	6.6	NM	NM
SG-5	NM	NM	NM	NM	4.0	NM	NM	NM	NM	NM
W-3	1.1	0.4	0.3	0.2	1.0	0.5	0.5	0.7	1.8	0.2
W-4	1.4	0.6	0.5	0.4	0.8	0.5	0.5	0.8	NM	NM
W-5	1.6	0.6	0.2	0.2	0.7	0.2	0.4	0.6	NM	NM
W-7	0.8	0.4	0.4	1.0	0.6	0.2	0.3	NM	2.6	NM

**MONTHLY PROGRESS REPORT
Groundwater Treatment Plant****French Ltd. Project
FLTG, Incorporated****5.0 GROUNDWATER TREATMENT PLANT****5.1 Summary of Activities**

As reported in last month's submittal, both bioreactors were taken out of service in succession to clean the fixed solid from the diffusers. With detention time reduced by one-half, and the sand fracturing opening areas of high chlorinated hydrocarbon in the west INT zone, an extremely elevated value was detected in this discharge parameter. After receiving these results from the laboratory, operations manually closed the carbon blending valve to decrease the total lbs. of detected chemicals to be discharged.

Unsettled pin floc became a problem after the reactors came back on line with the sludge volume at 3%. As a result of this, again operation closed the valve to use the carbon to reduce the total suspended solids. Four days later, 400 lbs. of feed stock were added to the clarifier to increase the SV's and to aid in solids settling.

Pilot tests were conducted in February to evaluate KNO_3^3 (potassium nitrate) versus DAP (diammonium phosphate) for improved nutrients to aid in chlorinated hydrocarbons degradation. These results are enclosed as attachment 5-A.

The remainder of the month adjustments in valve position and chemical addition were being made to compensate for the reduced influent flow. (See Section 4, attachment 4-A.)

The discharge standard for barium (Ba) is being addressed at this time with the TNRCC. An application to increase this parameter from 0.2 mg/L to 2.0 mg/L should be approved by late March, 1995; 2.0 mg/L is the EPA MCL for Ba in potable water.

There have been no other issues or major mechanical repairs for the month of February.

There have been no carbon transfers in this reporting period.

Total flows for February, 1995:

Water discharged to the San Jacinto River - 6,049,200 gallons

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Water discharged to the Lagoon - 0

Sludge discharged to the Lagoon - 0

Water processed through the GWT - 5,863,800 gallons

Water discharged to the South Pond - 0

Water blended passed Carbon Filter - 4,429,478 gallons

Water processed from Cell D to GWT plant: metered - 4.0 gallons

Cell D injection at S1-1 through S1-9: metered - 192,200 gallons

5.2 Inoculum/Nutrient Addition

The following have been introduced into the bioreactors/clarifier:

Nutrients:

245 gallons Diammonium Phosphate

Microbes:

24 oz. French Limited Isolated Microbes

Coagulant:

~ 4.0 gallons Percol 778 Cationic Polymer

5.3 Maintenance

Table 5-1 lists the preventive maintenance items performed in February.

5.4 Operating Data

Table 5-2 summarizes the laboratory analysis of the treated water discharged to the San Jacinto River.

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TABLE 5-1

Preventive Maintenance

Day	Action
February 3	Completed safety inspection of all electrical tools and extension cords.
February 7	Lubed all pumps and motors in GWT.
February 10	Lubed all red valves and all gate rollers.
February 14	Lubed all pumps and valves in chemical storage.
February 17	Replaced filters in central filter.
February 23	Checked oil and lubed blowers 1, 2, and 3.

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TABLE 5-2
Treated Water Results Summary

Collected	Set No.	pH		TSS		TOC		O&G		Benzene		Chlor HC's		Total PCBs		Naphthalene	
		(6-9)		5 PPM		55 PPM		15 PPM		150 PPB		500 PPB		0.65 PPB		300 PPB	
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg
3-Oct-94	M03A0276	7.36	1.			43.		2.5		2.5		593.		.16		5.	
6-Oct-94	M03A0277	7.44	1.			43.1		2.5		6.		230.		.16		5.	
10-Oct-94	M03A0278	7.61	1.			18.7		2.5		6.		310.		.16		5.	
13-Oct-94	M03A0279	7.28	1.			20.7		2.5		6.		380.		.16		5.	
3-Nov-94	CF-Out 1103	7.39	6.			23.1		2.5		2.5		14.		.16		5.	
14-Nov-94	M03A0282	7.4	9.			23.4		2.5		2.5		145.		.16		5.	
17-Nov-94	M03A0283	7.38	2.			37.3		2.5		2.5		611.		.16		5.	
21-Nov-94	M03A0284	7.27	4.			5.5		2.5		6.		423.		.16		5.	
24-Nov-94	M03A0285	7.26	7.38	4.	3.2	38.8	28.2	2.5	2.5	25.	6.6	1647.	484	.16	.16	5.	5.
28 Nov-94	M03A0286	7.24	7.36	.5	3.2	44.7	28.4	2.5	2.5	12.5	7.7	668.	492	.16	.16	5.	5.
1 Dec-94	M03A0287	7.4	7.36	1.	3.2	34.8	27.4	2.5	2.5	6.	7.7	528.	525	.16	.16	5.	5.
5-Dec-94	M03A0288	7.57	7.35	1.	3.2	28.5	28.5	2.5	2.5	6.	7.7	305.	524	.16	.16	5.	5.
8-Dec-94	M03A0289	7.52	7.38	1.	3.2	40.6	30.7	2.5	2.5	6.	7.7	480.	535	.16	.16	5.	5.
12-Dec-94	M03A0290	7.43	7.39	4.	2.9	33.	31.8	2.5	2.5	6.	8.1	342.	572	.16	.16	5.	5.
15-Dec-94	M03A0291	8.13	7.47	.5	2.	23.	31.8	2.5	2.5	6.	8.4	145.	572	.16	.16	5.	5.
19-Dec-94	M03A0292	7.96	7.53	1.	1.9	29.3	30.9	2.5	2.5	2.5	8.4	75.	512	.16	.16	5.	5.
22-Dec-94	M03A0293	7.91	7.6	4.	1.9	17.8	32.3	2.5	2.5	2.5	8.1	170.	484	.16	.16	5.	5.
26-Dec-94	M03A0294	7.68	7.65	10.	2.6	41.8	32.6	2.5	2.5	6.	5.9	353.	340	.16	.16	5.	5.
29-Dec-94	M03A0295	7.79	7.71	1.	2.6	15.4	29.4	2.5	2.5	2.5	4.8	205.	289	.16	.16	5.	5.
2-Jan-95	M03A0296	7.78	7.75	4.	2.9	12.9	26.9	2.5	2.5	5.	4.7	275.	261	.16	.16	5.	5.
5-Jan-95	M03A0297	7.81	7.78	5.	3.4	19.	25.9	2.5	2.5	6.	4.7	249.	255	.16	.16	5.	5.
9-Jan-95	M03A0298	7.8	7.81	7.	4.1	9.8	22.4	2.5	2.5	2.5	4.3	124.	215	.16	.16	5.	5.
12-Jan-95	M03A0299	7.77	7.85	2.	3.8	9.8	19.9	2.5	2.5	2.5	3.9	200.	200	.16	.16	5.	5.
16-Jan-95	M03A0300	7.61	7.79	4.	4.2	18.3	19.3	2.5	2.5	6.	3.9	393.	227	.16	.16	5.	5.
19-Jan-95	M03A0301	7.44	7.73	2.	4.3	19.8	18.3	2.5	2.5	5.	4.2	454.	269	.16	.16	5.	5.
23-Jan-95	M03A0302	7.82	7.72	9.	4.9	35.5	20.3	2.5	2.5	6.	4.6	192.	272	.16	.16	5.	5.
26-Jan-95	M03A0303	7.66	7.72	.5	3.8	20.5	17.9	2.5	2.5	6.	4.6	234.	258	.16	.16	5.	5.
30-Jan-95	M03A0304	7.15	7.65	4.	4.2	44.3	21.1	2.5	2.5	25.	7.1	2326.	494	.16	.16	5.	5.
2-Feb-95	M03A0305	7.28	7.59	.5	3.8	11.7	21.	2.5	2.5	6.	7.2	613.	532	.16	.16	5.	5.
6-Feb-95	M03A0306	7.55	7.56	1.	3.3	11.7	20.2	2.5	2.5	5.	7.1	411.	550	.16	.16	5.	5.
9-Feb-95	M03A0307	7.52	7.53	6.	3.1	8.8	20.	2.5	2.5	5.	7.4	226.	561	.16	.16	5.	5.
13-Feb-95	M03A0308	7.5	7.5	22.	5.3	9.7	20.	2.5	2.5	5.	7.7	349.	578	.16	.16	5.	5.
16-Feb-95	M03A0309	7.33	7.47	.5	4.9	5.2	18.6	2.5	2.5	5.	7.6	276.	565	.16	.16	5.	5.
20-Feb-95	M03A0310	7.37	7.46	6.	5.4	5.8	17.	2.5	2.5	4.	7.4	193.	536	.16	.16	5.	5.
23-Feb-95	M03A0311	7.29	7.41	1.	4.5	1.	13.2	2.5	2.5	2.5	7.1	60.	521	.16	.16	5.	5.
27-Feb-95	M03A0312	7.46	7.38	3.	4.8	9.5	12.	2.5	2.5	2.5	6.7	164.	513	.16	.16	5.	5.

Discharge sample of 17-Oct destroyed in flood.

Chlorinated hydrocarbons value is sum of detected concentrations of 21 volatile chlorinated hydrocarbons on target compound list.

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TABLE 5-2 (Continued)
Treated Water Results Summary

Collected	Set No.	As	Ba	Cd	Cr	Cu	Pb	Mn	Hg	NI	Se	Ag	Zn												
		150 PPB	200 PPB	50 PPB	500 PPB	15 PPB	66 PPB	300 PPB	1 PPB	148 PPB	20 PPB	5 PPB	162 PPB												
		Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg	Daily	R-Avg												
3-Oct-94	M03A0276	13.	60.	1.3	2.5	3.	1.3	11.	.1	20.	1.3	2.6	9.												
6-Oct-94	M03A0277	14.	73.	1.3	2.5	3.	1.3	9.	.1	2.5	1.3	2.6	3.8												
10-Oct-94	M03A0278	11.	58.	1.3	2.5	3.	1.3	1.3	.1	1.3	1.3	2.6	10.												
13-Oct-94	M03A0279	10.	70.	1.3	2.5	2.5	1.3	3.	.1	2.5	1.3	2.6	3.8												
3-Nov-94	CF-Out 1103	46	32.	.1	5.	5.	.5	21.	.1	7.	1.3	.2	50.												
14-Nov-94	M03A0282	30.	12.	.1	.2	3.	.5	.1	.1	.1	1.2	.2	3.												
17-Nov-94	M03A0283	15.	51.	.1	2.	2.	.5	14.	.1	8.	1.2	.2	6.												
21-Nov-94	M03A0284	10.	50.	.1	.2	2.	.5	6.	.1	4.	1.2	.2	4.												
24-Nov-94	M03A0285	16.	18.3	79.	54	.1	.6	1.	2.	2.8	.5	.8	27.	10.3	.1	7.	5.8	1.3	1.2	.2	1.2	1.5	10.1		
28-Nov-94	M03A0286	6.	17.6	115.	60	.1	.5	.2	1.8	2.	2.7	.5	.8	18.	11.	.1	7.	4.4	1.3	1.2	.2	.9	6.	9.8	
1-Dec-94	M03A0287	11.	17.2	109.	64	.1	.4	.5	1.6	1.	2.5	.5	.7	7.	10.8	.1	1.	10.	5.2	1.3	1.2	.5	.7	4.	9.8
5-Dec-94	M03A0288	12.	17.3	121.	71	.1	.2	1.	1.4	3.	2.5	1.	.6	19.	12.8	.1	.1	.9	5.2	1.3	1.2	.5	.5	9.	9.7
8-Dec-94	M03A0289	14.	17.8	128.	77	.1	.1	1.	1.2	.3	2.3	.5	.6	3.	12.8	.1	.1	10.	6.	1.3	1.2	.2	.2	3.8	9.7
12-Dec-94	M03A0290	7.	13.4	154.	91	.1	.1	7.	1.4	4.	2.1	.5	.6	9.	11.5	.1	.1	13.	6.7	1.3	1.2	.2	.2	5.	4.7
15-Dec-94	M03A0291	49.	15.6	92.	100	.1	.1	2.	1.8	.7	1.9	.5	.6	3.	11.8	.1	.1	1.	6.8	5.	1.7	.2	.2	5.	4.9
19-Dec-94	M03A0292	16.	15.7	93.	105	.1	.1	1.	1.5	1.	1.8	.5	.6	3.	10.6	.1	.1	2.	6.1	1.	1.6	.2	.2	4.	4.7
22-Dec-94	M03A0293	17.	16.4	130.	113	.1	.1	.2	1.5	1.4	1.7	.5	.6	2.	10.1	.1	.1	2.	5.9	1.3	1.6	.2	.2	1.5	4.4
26-Dec-94	M03A0294	11.	15.9	151.	121	.1	.1	.2	1.4	1.8	1.7	.5	.6	9.	8.1	.1	.1	4.	5.5	1.3	1.6	.2	.2	6.	4.9
29-Dec-95	M03A0295	18.	17.2	114.	121	.2	.1	1.	1.5	1.	1.6	.5	.6	4.	6.6	.1	.1	3.	5.1	5.	2.1	.2	.2	4.	4.7
2-Jan-95	M03A0296	9.9	18.3	172.	140	.1	.1	2.1	1.8	1.6	1.8	.5	.6	18.	8.6	.1	.1	1.	5.2	1.2	2.2	.2	.2	7.	5.5
5-Jan-95	M03A0297	14.	18.7	151.	145	.1	.1	3.	2.	2.	1.9	.5	.6	57.	14.1	.1	.1	6.	4.8	1.2	2.2	.2	.2	20.	7.3
9-Jan-95	M03A0298	12.	18.7	171.	151	.1	.1	.9	2.	3.	1.9	.5	.6	23.	14.6	.1	.1	4.	5.1	1.3	2.2	.2	.2	7.	7.
12-Jan-95	M03A0299	16.	18.9	143.	152	.1	.1	.2	1.9	2.	2.1	.5	.6	2.	14.4	.1	.1	2.	4.2	1.3	2.2	.2	.2	3.	6.9
16-Jan-95	M03A0300	12.	19.4	146.	151	.1	.1	.6	1.2	3.	1.9	.5	.6	1.	13.6	.1	.1	3.	3.1	1.3	2.2	.2	.2	6.	7.1
19-Jan-95	M03A0301	18.	16.	135.	156	.1	.1	.4	1.1	2.	2.1	.5	.6	2.	13.4	.1	.1	4.	3.4	1.3	1.8	.2	.2	18.	8.5
23-Jan-95	M03A0302	12.	15.5	140.	161	.1	.1	.2	1.	2.	2.2	.5	.6	3.	13.4	.1	.1	6.	3.9	1.3	1.8	.2	.2	16.	9.8
26-Jan-95	M03A0303	16.	15.4	148.	163	.1	.1	.2	1.	2.	2.3	.5	.6	2.	13.4	.1	.1	2.	3.9	1.3	1.8	.2	.2	12.	11.
30-Jan-95	M03A0304	9.	15.2	238.	173	.1	.1	.2	1.	2.	2.3	.5	.6	43.	17.2	.1	.1	3.	3.8	1.3	1.8	.2	.2	5.	10.9
2-Feb-95	M03A0305	10.	14.3	192.	182	.1	.1	1.	1.	2.	2.4	.5	.6	15.	18.4	.1	.1	4.	3.9	1.3	1.4	.2	.2	8.	11.3
6-Feb-95	M03A0306	11.	14.4	188.	184	.1	.1	.2	.7	1.	2.3	.5	.6	4.	16.9	.1	.1	2.	4.	1.3	1.4	.2	.2	5.	11.1
9-Feb-95	M03A0307	16.	14.7	195.	188	.1	.1	.2	.4	4.	2.6	.5	.6	6.	11.2	.1	.1	6.	4.	1.3	1.4	.2	.2	11.	10.1
13-Feb-95	M03A0308	13.	14.8	184.	190	.1	.1	2.	.5	1.	2.3	.5	.6	15.	10.3	.1	.1	5.	4.1	1.3	1.4	.2	.2	8.	10.2
16-Feb-95	M03A0309	12.	14.3	184.	194	.1	.1	.2	.5	1.	2.2	.5	.6	6.	10.8	.1	.1	6.	4.6	1.3	1.4	.2	.2	7.	10.7
20-Feb-95	M03A0310	14.	14.6	191.	199	.1	.1	.2	.7	2.	2.1	.5	.6	27.	13.7	.1	.1	8.	5.1	1.3	1.4	.3	.2	6.	10.7
23-Feb-95	M03A0311	13.	14.	165.	203	.1	.1	1.	.8	2.	2.1	.5	.6	3.	13.8	.1	.1	8.	5.6	1.3	1.4	.2	.2	9.	9.7
27-Feb-95	M03A0312	22.	15.1	144.	203	.1	.1	4.5	1.3	3.	2.2	.5	.6	3.	13.8	.1	.1	12.	6.2	1.3	1.4	.5	.2	2.5	8.2

Discharge sample of 17-Oct destroyed in flood.
Metals values in PPB.

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**MONTHLY PROGRESS REPORT
Groundwater Treatment Plant**

**French Ltd. Project
FLTG, Incorporated**

ATTACHMENT 5A

Pilot Tests

Compound	Raw Baseline	DAP		KNO3	
		11 hours	24 hours	11 hours	24 hours
Ammonia (N)	18.1	541	524	16.2	14.4
Ortho-phosphorus	ND	104	77.8	2.7	2.7
Potassium	79.7	70.6	69.3	208	207
Nitrate	ND	ND	ND	45.6	44.1
Chloromethane	10000 U	400 U	170 U	400 U	200 U
Bromomethane	10000 U	400 U	170 U	400 U	200 U
Vinyl chloride	10000 U	400 U	170 U	400 U	200 U
Chloroethane	10000 U	400 U	170 U	400 U	200 U
Methylene Chloride	7400	140	83 U	200 U	100 U
Acetone	14000	6900	1200	6800	3300
Carbon disulfide	5000 U	200 U	83 U	200 U	100 U
1,1-Dichloroethene	5000 U	200 U	83 U	200 U	100 U
1,1-Dichloroethane	3400	200 U	83 U	200 U	100 U
1,2-Dichloroethene(Total)	16000	320	83 U	200 U	100 U
Chloroform	89000	2800	83 U	300	100 U
1,2-Dichloroethane	38000	2500	83 U	710	100 U
2-Butanone	10000 U	750	99	760	290
1,1,1-Trichloroethane	5000 U	200 U	83 U	200 U	100 U
Carbon Tetrachloride	5000 U	200 U	83 U	200 U	100 U
Vinyl acetate	10000 U	400 U	170 U	400 U	200 U
Bromodichloromethane	5000 U	200 U	83 U	200 U	100 U
1,2-Dichloropropane	5000 U	200 U	83 U	200 U	100 U
cis-1,3-Dichloropropene	5000 U	200 U	83 U	200 U	100 U
Trichloroethene	5000 U	200 U	83 U	200 U	100 U
Dibromochloromethane	5000 U	200 U	83 U	200 U	100 U
1,1,2-Trichloroethane	5000 U	200 U	83 U	200 U	100 U
Benzene	5000 U	200 U	83 U	200 U	100 U
trans-1,3-Dichloropropene	5000 U	200 U	83 U	200 U	100 U
2-Chloroethylvinyl ether	5000 U	200 U	83 U	200 U	100 U
Bromoform	5000 U	200 U	83 U	200 U	100 U
4-Methyl-2-pentanone	10000 U	770	170 U	740	120
2-Hexanone	10000 U	400 U	170 U	400 U	200 U
Tetrachloroethene	5400	120	83 U	200 U	100 U
1,1,2,2-Tetrachloroethane	5000 U	200 U	83 U	200 U	100 U
Toluene	5000 U	200 U	83 U	200 U	100 U
Chlorobenzene	5000 U	200 U	83 U	200 U	100 U
Ethylbenzene	5000 U	200 U	83 U	200 U	100 U
Styrene	5000 U	200 U	83 U	200 U	100 U
Xylene (total)	5000 U	200 U	83 U	200 U	100 U

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Compound	Raw Baseline	DAP		KNO3	
		11 hours	24 hours	11 hours	24 hours
1,2,4-Trichlorobenzene	2000 U	2000 U	2000 U	2000 U	2000 U
1,2-Dichlorobenzene	2000 U	2000 U	2000 U	2000 U	2000 U
1,3-Dichlorobenzene	2000 U	2000 U	2000 U	2000 U	2000 U
1,4-Dichlorobenzene	2000 U	2000 U	2000 U	2000 U	2000 U
2,4,5-Trichlorophenol	10000 U	10000 U	10000 U	10000 U	10000 U
2,4,6-Trichlorophenol	2000 U	2000 U	2000 U	2000 U	2000 U
2,4-Dichlorophenol	2000 U	2000 U	2000 U	2000 U	2000 U
2,4-Dimethylphenol	2000 U	2000 U	2000 U	2000 U	2000 U
2,4-Dinitrophenol	10000 U	10000 U	10000 U	10000 U	10000 U
2,4-Dinitrotoluene	2000 U	2000 U	2000 U	2000 U	2000 U
2,6-Dinitrotoluene	2000 U	2000 U	2000 U	2000 U	2000 U
2-Chloronaphthalene	2000 U	2000 U	2000 U	2000 U	2000 U
2-Chlorophenol	2000 U	2000 U	2000 U	2000 U	2000 U
2-Methylnaphthalene	2000 U	2000 U	2000 U	2000 U	2000 U
2-Methylphenol	2000 U	2000 U	2000 U	2000 U	2000 U
2-Nitroaniline	10000 U	10000 U	10000 U	10000 U	10000 U
2-Nitrophenol	2000 U	2000 U	2000 U	2000 U	2000 U
3,3-Dichlorobenzidine	4000 U	4000 U	4000 U	4000 U	4000 U
3-Nitroaniline	10000 U	10000 U	10000 U	10000 U	10000 U
4,6-Dinitro-2-methylphenol	10000 U	10000 U	10000 U	10000 U	10000 U
4-Bromophenyl phenyl ether	2000 U	2000 U	2000 U	2000 U	2000 U
4-Chloro-3-methylphenol	2000 U	2000 U	2000 U	2000 U	2000 U
4-Chloroaniline	2000 U	2000 U	2000 U	2000 U	2000 U
4-Chlorophenyl phenyl ether	2000 U	2000 U	2000 U	2000 U	2000 U
4-Methylphenol	790	590	700	610	660
4-Nitroaniline	10000 U	10000 U	10000 U	10000 U	10000 U
4-Nitrophenol	10000 U	10000 U	10000 U	10000 U	10000 U
Acenaphthene	2000 U	2000 U	2000 U	2000 U	2000 U
Acenaphthylene	2000 U	2000 U	2000 U	2000 U	2000 U
Anthracene	2000 U	2000 U	2000 U	2000 U	2000 U
Benzo(a)anthracene	2000 U	2000 U	2000 U	2000 U	2000 U
Benzo(a)pyrene	2000 U	2000 U	2000 U	2000 U	2000 U
Benzo(g,h,i)perylene	2000 U	2000 U	2000 U	2000 U	2000 U
Benzo(k)fluoranthene	2000 U	2000 U	2000 U	2000 U	2000 U
Benzo(b)fluoranthene	2000 U	2000 U	2000 U	2000 U	2000 U
Benzoic Acid	1600	1500	1700	1600	1700
Bis(2-chloroethoxy)methane	2000 U	2000 U	2000 U	2000 U	2000 U
Bis(2-chloroethyl)ether	2000 U	2000 U	2000 U	2000 U	2000 U
Bis(2-chloroisopropyl)ether	2000 U	2000 U	2000 U	2000 U	2000 U
Bis(2-ethylhexyl)phthalate	2000 U	2000 U	2000 U	2000 U	2000 U
Butyl benzyl phthalate	2000 U	2000 U	2000 U	2000 U	2000 U
Chrysene	2000 U	2000 U	2000 U	2000 U	2000 U
Di-n-butyl phthalate	2000 U	2000 U	2000 U	2000 U	2000 U
Di-n-octyl phthalate	2000 U	2000 U	2000 U	2000 U	2000 U
Dibenzo(a,h)anthracene	2000 U	2000 U	2000 U	2000 U	2000 U
Dibenzofuran	2000 U	2000 U	2000 U	2000 U	2000 U
Diethyl phthalate	2000 U	2000 U	2000 U	2000 U	2000 U
Dimethyl phthalate	2000 U	2000 U	2000 U	2000 U	2000 U

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Compound	Raw Baseline	DAP		KNO3	
		11 hours	24 hours	11 hours	24 hours
Fluoranthene	2000 U	2000 U	2000 U	2000 U	2000 U
Fluorene	2000 U	2000 U	2000 U	2000 U	2000 U
Hexachlorcyclopentadiene	2000 U	2000 U	2000 U	2000 U	2000 U
Hexachlorobenzene	2000 U	2000 U	2000 U	2000 U	2000 U
Hexachlorobutadiene	2000 U	2000 U	2000 U	2000 U	2000 U
Hexachloroethane	2000 U	2000 U	2000 U	2000 U	2000 U
Indeno(1,2,3-cd)pyrene	2000 U	2000 U	2000 U	2000 U	2000 U
Isophorone	2000 U	2000 U	2000 U	2000 U	2000 U
N-Nitrosodi-n-propylamine	2000 U	2000 U	2000 U	2000 U	2000 U
N-Nitrosodiphenylamine	2000 U	2000 U	2000 U	2000 U	2000 U
Naphthalene	1000	2000 U	2000 U	2000 U	2000 U
Nitrobenzene	2000 U	2000 U	2000 U	2000 U	2000 U
Pentachlorophenol	10000 U	10000 U	10000 U	10000 U	10000 U
Phenanthrene	2000 U	2000 U	2000 U	2000 U	2000 U
Phenol	2100	1700	1900	1700	1800
Pyrene	2000 U	2000 U	2000 U	2000 U	2000 U

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MONTHLY PROGRESS REPORT
Ambient Air Management

French Ltd. Project
FLTG, Incorporated

6.0 AMBIENT AIR MANAGEMENT

Ambient air quality management continued on an "as-needed" basis to protect the environment, human health, and site workers.

6.1 Summary of Activities

Collected and analyzed three time-integrated personnel exposure samples; the measured levels of volatile organic compounds were well below the action levels.

Sampled the ambient air in all work areas several times per shift and on a random "spot-check" basis; there were no levels of volatile organic compounds which required response action. Sampled ambient air in special work areas where burning and/or welding was planned. Sampled ambient air continuously in areas where exposure could occur.

6.2 Problems and Response Action

<u>Problem</u>	<u>Response Action</u>
Calibrate portable vapor meters.	Train operators to calibrate; refurbish all meters.
Sampling "hot" wells.	Require respirator use when sampling "hot" wells.
Ambient air quality in all work areas.	Check all work areas with portable meter several times per day.
H ₂ S levels in some well vaults.	Vent vault and purge with air before working in the vaults.

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Ambient Air Management

French Ltd. Project
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6.3 Problems Resolved

None.

6.4 On-going Events/Activities

Measure ambient air quality in all work areas several times per day.

Conduct periodic time-integrated sampling in all major work areas.

Require respiratory protection when sampling "hot" wells.

Conduct necessary air sampling and analyses to issue "burn" permits.

Closely monitor ambient air quality in the vicinity of new projects/activities.

Conduct respirator fit tests on all employees.



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7.0 QUALITY ASSURANCE/QUALITY CONTROL

7.1 Summary of Activities

7.1.1 Sampling

One set of personal air monitoring samples were collected in February. The following is a summary of current routine and special air matrix code sample specifics:

MATRIX CODE	SAMPLE SPECIFICS
--------------------	-------------------------

M01D	TF at three locations
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TF = Tenax® front tube

Table 7-1 is a summary of the air, soil and water samples collected for the month of February. Table 7-2 is a summary of Scheduled Sampling Events for the month of February.

7.1.2 Data Validation Activities Summary

7.1.2.1 Treated Water Samples

Data validation was completed for sample sets M03A0296, M03A0297, M03A0298, M03A0299, M03A0300, M03A0301, M03A0302, M03A0303, M03A0304 and M03A0305. These samples were collected between January 2, 1995 and February 2, 1995. QC failures are summarized in Table 7-3. Completeness values are summarized in Tables 7-4 through 7-8.

7.1.2.2 Groundwater Samples

Level I data validation was completed for sample sets collected during the 1994 annual groundwater sampling event. QC summaries and completeness values for this sampling event will be reported in the March monthly report and in the 1994 Annual QA Report to be completed in March.

7.1.2.3 Other Samples

All other special sample sets were validated manually this period.

7.2 Data Validation QC Summary and Discussion**7.2.1 Level I and Level II QC Philosophy**

The Quality Assurance Project Plan (QAPP) defines data validity in terms of procedural requirements which must be followed for data comparability, and numerical data quality objectives which must be met to assure precision and accuracy of the results. Precision, accuracy and completeness are the numerical Data Quality Objectives (DQOs) established for the French Project by the QAPP. The intent of the data validation process is to verify that the documentation and quality control data provided by the laboratory properly substantiate the required data quality.

For purposes of data validation procedures, the QAPP defines two QC levels: Level I and Level II. Level I data validation is specified for process control and progress monitoring sample data validation and Level II data validation is specified for remediation verification sample results and treated water discharge sample results.

7.2.2 QA Issues**7.2.2.1 Double Blind Spike Samples**

FLTG submitted two double blind spike samples to AATS-LA on January 12, 1995. These samples were prepared by Environmental Resource Associates, Inc., a company specializing in spike sample preparation.. The samples were prepared with certain analytes in concentrations comparable to the levels expected to be found in samples at the French Ltd. Project. One sample was prepared at a very low level of analyte concentration, and one sample was prepared at a higher level of analyte concentration. The analytical results of these samples are reported in Attachment 7-A. With the exception of Zinc, all analytes were detected and reported within the acceptable limits established by ERA, Inc. Zinc was reported at a level higher than the certified value in both samples.

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TABLE 7-1**Samples Collected - February, 1995**

<u>Sample No.</u>	<u>Description</u>	<u>Location</u>	<u>Date Samp'd</u>	<u>Lab Rec'd</u>	<u>Data Rec'd</u>	<u>Lab</u>
M01D005101	Personal air monitoring	WTP Operator	2/09	2/10	Y	A
M01D005102	Personal air monitoring	Well Maint.	2/09	2/10	Y	A
M01D005103	Personal air monitoring	Security	2/09	2/10	Y	A
M01D005201	Personal air monitoring	WTP Operator	2/17	2/18	N	A
M01D005202	Personal air monitoring	Well Maint.	2/17	2/18	N	A
M01D005203	Personal air monitoring	Security	2/17	2/18	N	A
M03A030501	Treated waater discharge	CF Out	2/02	2/03	Y	A
M03A030601	Treated waater discharge	CF Out	2/06	2/07	Y	A
M03A030701	Treated waater discharge	CF Out	2/09	2/10	Y	A
M03A030801	Treated waater discharge	CF Out	2/13	2/14	N	A
M03A030901	Treated waater discharge	CF Out	2/16	2/17	N	A
M03A031001	Treated waater discharge	CF Out	2/20	2/21	N	A
M03A031101	Treated waater discharge	CF Out	2/23	2/24	N	A
M03A031201	Treated waater discharge	CF Out	2/27	2/28	N	A
M06C002301	Process water monitoring	T-101 Eff	2/06	2/07	Y	A
M06C002302	Process water monitoring	T-101 Inf	2/06	2/07	Y	A

Labs: A = American Analytical and Technical Services
 N = North Water District Lab
 K = Chester LabNet-Houston

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TABLE 7-1**Samples Collected - February, 1995**

<u>Sample No.</u>	<u>Description</u>	<u>Location</u>	<u>Date Samp'd</u>	<u>Lab Rec'd</u>	<u>Data Rec'd</u>	<u>Lab</u>
M06C002303	Process water monitoring	R1	2/06	2/07	Y	A
M06C002304	Process water monitoring	R2	2/06	2/07	Y	A
M06C002305	Process water monitoring	Cell D Liqr	2/06	2/07	Y	A
S14C000501	Groundwater	INT-020	2/02	2/03	Y	A
S14C000601	Sand frac. polymer	SF Polymer	2/08	2/09	Y	A
S14C000701	Groundwater monitoring	INT-205	2/20	2/21	N	A
S14C000702	Groundwater monitoring	INT-212	2/20	2/21	N	A
S14K001201	Groundwater monitoring	S1-113	2/08	2/09	N	A
S14K001202	Groundwater monitoring	S1-114	2/08	2/09	N	A
S14K001203	Groundwater monitoring	INT-116	2/08	2/09	N	A
S14K001301	Groundwater monitoring	INT-224	2/23	2/24	N	A
S14K001302	Groundwater monitoring	INT-225	2/23	2/24	N	A
S14L002401	Groundwater monitoring	S1-019	2/01	2/02	N	A
S14L002402	Groundwater monitoring	S1-044	2/01	2/02	N	A
S14L002403	Groundwater monitoring	S1-045	2/01	2/02	N	A
S14L002404	Groundwater monitoring	S1-046	2/01	2/02	N	A

Labs: A = American Analytical and Technical Services
 N = North Water District Lab
 K = Chester LabNet-Houston

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TABLE 7-1**Samples Collected - February, 1995**

<u>Sample No.</u>	<u>Description</u>	<u>Location</u>	<u>Date Samp'd</u>	<u>Lab Rec'd</u>	<u>Data Rec'd</u>	<u>Lab</u>
S14L002405	Groundwater monitoring	S1-047	2/01	2/02	N	A
S14L002406	Groundwater monitoring	S1-048	2/01	2/02	N	A
S14L002407	Groundwater monitoring	S1-060	2/01	2/02	N	A
S14L002408	Groundwater monitoring	S1-062	2/01	2/02	N	A
S14L002501	Groundwater monitoring	INT-016	2/01	2/02	N	A
S14L002502	Groundwater monitoring	INT-017	2/01	2/02	N	A
S14L002503	Groundwater monitoring	INT-025	2/01	2/02	N	A
S14L002504	Groundwater monitoring	INT-028	2/01	2/02	N	A
S14L002505	Groundwater monitoring	INT-029	2/01	2/02	N	A
S14L002506	Groundwater monitoring	INT-031	2/01	2/02	N	A
S14L002507	Groundwater monitoring	INT-032	2/01	2/02	N	A
S14L002508	Groundwater monitoring	INT-208	2/01	2/02	N	A
S14L002509	Groundwater monitoring	INT-209	2/01	2/02	N	A
S14L002510	Groundwater monitoring	INT-210	2/01	2/02	N	A
S14L002511	Groundwater monitoring	INT-214	2/01	2/02	N	A
S16K000401	Process water investigation	R2 Baseline	2/13	2/14	N	A
S16K000402	Process water investigation	R2-DAP 11hr	2/13	2/14	N	A
S16K000403	Process water investigation	R2-DAP 24hr	2/13	2/14	N	A

Labs: A = American Analytical and Technical Services
 N = North Water District Lab
 K = Chester LabNet-Houston

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TABLE 7-1

Samples Collected - February, 1995

<u>Sample No.</u>	<u>Description</u>	<u>Location</u>	<u>Date Samp'd</u>	<u>Lab Rec'd</u>	<u>Data Rec'd</u>	<u>Lab</u>
S16K000404	Process water investigation	R2-KNO 11hr	2/13	2/14	N	A
S16K000405	Process water investigation	R2-KNO 24hr	2/13	2/14	N	A

Labs: A = American Analytical and Technical Services
N = North Water District Lab
K = Chester LabNet-Houston

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TABLE 7-2

Scheduled Sampling Events
February, 1995

<u>Date Sampled</u>	<u>Set Number</u>	<u>Description</u>	<u>Schedule</u>
2/02/95	S14C0005	Groundwater monitoring	Special
2/20/95	S14C0007	Groundwater monitoring	Special
2/08/95	S14K0012	Groundwater monitoring	Special
2/23/95	S14K0013	Groundwater monitoring	Special
2/01/95	S14L0024	Groundwater monitoring	Special
2/01/95	S14L0025	Groundwater monitoring	Special
2/09/95	M01D0051	Personal air monitoring	Monthly
2/17/95	M01D0052	Personal air monitoring	Monthly
2/06/95	M06C0023	Process water monitoring	Monthly
2/13/95	S16K0004	Process water test	Special
2/08/95	S14C0006	Sand frac. polymer test	Special
2/02/95	M03A0305	Treated water discharge	Bi-weekly
2/06/95	M03A0306	Treated water discharge	Bi-weekly
2/09/95	M03A0307	Treated water discharge	Bi-weekly
2/13/95	M03A0308	Treated water discharge	Bi-weekly
2/16/95	M03A0309	Treated water discharge	Bi-weekly
2/20/95	M03A0310	Treated water discharge	Bi-weekly
2/23/95	M03A0311	Treated water discharge	Bi-weekly
2/27/95	M03A0312	Treated water discharge	Bi-weekly

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TABLE 7-3**Treated Water QC Failure Summary**

Sample Date	Test	QC Failure	Explanation	Corrective Action
01/02/95	Ba	ICP Interf.	Interference was indicated by the ICP serial dilution.	None required - LCS, Dup and Spike were within QC limits.
01/05/95	Ba	ICP Interf.	Interference was indicated by the ICP serial dilution.	None required - LCS, Dup and Spike were within QC limits.
01/05/95	Mn	ICP Interf.	Interference was indicated by the ICP serial dilution.	None required - LCS, Dup and Spike were within QC limits.
01/09/95	Ba	ICP Interf.	Interference was indicated by the ICP serial dilution.	None required - LCS, Dup and Spike were within QC limits.
01/09/95	Mn	ICP Interf.	Interference was indicated by the ICP serial dilution.	None required - LCS, Dup and Spike were within QC limits.
01/09/95	Pb	Dup Prec.	Duplicate precision was outside control limits.	None required - LCS and spike were within control limits. Sample concentration was below detection limits and duplicate had a detected concentration.
01/12/95	Ba	ICP Interf.	Interference was indicated by the ICP serial dilution.	None required - LCS, Dup and Spike were within QC limits.
01/16/95	Ba	ICP Interf.	Interference was indicated by the ICP serial dilution.	None required - LCS, Dup and Spike were within QC limits.
01/19/95	Ba	ICP Interf.	Interference was indicated by the ICP serial dilution.	None required - LCS, Dup and Spike were within QC limits.
01/19/95	SV	SU Recov.	The LCS had 2 acid surrogate recoveries outside QC limits.	The LCS was re-analyzed and all surrogates were within QC limits on the re-analysis.
01/23/95	Ba	ICP Interf.	Interference was indicated by the ICP serial dilution.	None required - LCS, Dup and Spike were within QC limits.
01/23/95	VOA	MS Accur.	Matrix spike accuracy was outside control limits for benzene on sample 01MS.	None required - MS precision and all surrogates were within QC limits.
01/26/95	Ba	ICP Interf.	Interference was indicated by the ICP serial dilution.	None required - LCS, Dup and Spike were within QC limits.
01/30/95	Ba	ICP Interf.	Interference was indicated by the ICP serial dilution.	None required - LCS, Dup and Spike were within QC limits.
01/30/95	Mn	ICP Interf.	Interference was indicated by the ICP serial dilution.	None required - LCS, Dup and Spike were within QC limits.
01/30/95	PCB	SU Recov.	Surrogate TCX was outside QC limits on column 2 for samples 01, 01MS and 01MSD.	None required - surrogates only need to be within control limits on 1 of the 2 column confirmation analyses.
01/30/95	SV	SU Recov.	Surrogate recovery was outside QC limits on one acid surrogate on the blank associated with this sample.	None required - One acid and one base/neutral surrogate are allowed to be outside QC limits.
02/02/95	Ba	ICP Interf.	Interference was indicated by the ICP serial dilution.	None required - LCS, Dup and Spike were within QC limits.
02/02/95	Mn	ICP Interf.	Interference was indicated by the ICP serial dilution.	None required - LCS, Dup and Spike were within QC limits.

7.2.3 Completeness Summaries

Tables 7-4 through 7-8 summarize completeness values for VOA, SVA, PCBs, Metals and miscellaneous parameters on treated water samples.

VOA (Table 7-4)

A total of 10 VOA sample sets have been validated with all categories meeting Project Completeness Goals.

SVA (Table 7-5)

A total of 10 SVA sample sets have been validated for this time period. All categories meet or exceed Project Completeness Goals with the exception of sample matrix effect. This is due to matrix effect failures in the early stages of the project and the MS/MSD accuracy failures that occurred during September and October 1994.

PCBs (Table 7-6)

A total of 10 PCB sample sets have been validated for this time period with all samples, meeting data quality objectives. All categories meet or exceed Project Completeness Goals.

Metals (Table 7-7)

A total of 10 sample sets have been validated for this time period. Project Completeness Goals are met or exceeded in all categories.

Miscellaneous Parameters (Table 7-8)

A total of 10 sample sets have been validated for this time period. Project completeness goals are met or exceeded in all categories.

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TABLE 7-4

Completeness Summary
M03A Treated Water
Volatile Organics Analyses

SAMPLE DATE SET NUMBER	M03A0296 thru M03A0305	Project to Date	PROJECT GOAL
Analysis Holding Time 12 Hour Window	100 100	100 100	100 100
SU Check	100	93	90
SU1 (d4-1,2-DCE)	100	97	90
SU2 (d8-Toluene)	100	98	90
SU3 (4-BFB)	100	99	90
IS Check	100	100	90
IS1 (BrClMethane)	100	100	90
IS2 (1,4-DiFIBenzene)	100	100	90
IS3(d5-ClBenzene)	100	100	90
Sample RT/RRT Check	100	*	
Vinyl Chloride			
Accuracy	100	99	90
Precision	100	99	90
Benzene			
Accuracy	100	99	90
Precision	90	100	90
No Group Matrix Effect	100	*	90
No Sample Matrix Effect	100	*	90
Tune Check	100	*	
Overall ICAL Check	100	*	
Overall CCAL Check	100	*	
Overall Lab Blank Check	100	*	

* - Level II QC checks were performed on 10% of samples prior to 6/14/93.
 PTD completeness values do not apply to these checks.

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TABLE 7-5

Completeness Summary
M03A Treated Water
Semivolatile Organic Analyses

SAMPLE DATE SET NUMBER	M03A0296 thru M03A0305	Project to Date	PROJECT GOAL
Extract Holding Time	100	100	100
Analysis Holding Time	100	100	100
12 Hour Window	100	100	100
SU Check	100	95	90
SU1 (2-FIPhenol)	100	95	90
SU2 (d5-Phenol)	100	93	90
SU3 (d5-Nitrobenz)	60	96	90
SU4(2-FIBiphenyl)	100	97	90
SU5(2,4,6-TBPh)	100	94	90
SU6(d14-Terphen)	100	95	90
IS Check	100	96	90
IS1 (d4-1,4-DiClBenz)	100	100	90
IS2 (d8-Naph)	100	100	90
IS3 (d10-Acenaph)	100	100	90
IS4 (d10-Phenanth)	100	100	90
IS5 (d12-Chrysene)	90	97	90
IS6 (d12-Perylene)	100	96	90
Sample RT/RRT	100	*	*
Naphthalene			
Accuracy	90	95	90
Precision	100	99	90
No Group Matrix Effect	100	100	90
No Sample Matrix Effect	100	89	90
Tune Check	100	*	*
Overall ICAL Check	100	*	*
Overall CCAL Check	100	*	*
Overall Lab Blank Check	100	*	*

* - Level II QC checks were performed on 10% of samples prior to 6/14/93.
PTD completeness values do not apply to these checks.

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TABLE 7-6

Completeness Summary
M03A Treated Water
PCB Analyses

SAMPLE DATE SET NUMBER	M03A0296 thru M03A0305	Project to Date	PROJECT GOAL
Extract Holding Time	100	100	100
Analysis Holding Time	100	100	100
12 Hour Window	100	100	100
SU Check - Column A	100	99	90
SU1 (DCBP)	90	83	NS
SU2 (TCMX)	90	97	NS
SU Check - Column B	100	98	90
SU1 (DCBP)	100	84	NS
SU2 (TCMX)	100	97	NS
SU Check - Column A or B	100	98	90
Aroclor 1242			
Accuracy	100	99	90
Precision	100	97	90
Overall ICAL Check	100	*	
Overall 1st CCAL Check	100	*	
Overall 2nd CCAL Check	100	*	
Overall Lab Blank Check	100	*	

* - Level II QC checks were performed on 10% of samples prior to 6/14/93.
 PTD completeness values do not apply to these checks.

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TABLE 7-7

Completeness Summary
M03A Treated Water
Metals Analyses

SAMPLE DATE SET NUMBER	M03A0296 thru M03A0305	PROJECT GOAL
---------------------------	---------------------------	--------------

ANALYTE: BARIUM

MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

ANALYTE: CADMIUM

MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

ANALYTE: CHROMIUM

MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

ANALYTE: COPPER

MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

ANALYTE: LEAD

MS Accuracy	100	95
DUP Precision/Difference	90	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

W - All samples waived due to low response

* Matrix interference is indicated by:

Furnace analyses - failure of analytical spike or low MSA coefficient
 ICP analyses - failure of serial dilution

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TABLE 7-7 (Continued)

Completeness Summary
M03A Treated Water
Metals Analyses

SAMPLE DATE SET NUMBER	M03A0296 thru M03A0305	PROJECT GOAL
---------------------------	---------------------------	--------------

ANALYTE: MANGANESE

MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

ANALYTE: NICKEL

MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

ANALYTE: SILVER

MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

ANALYTE: ZINC

MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

ANALYTE: MERCURY

MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

W - All samples waived due to low response

* Matrix interference is indicated by:

Furnace analyses - failure of analytical spike or low MSA coefficient
 ICP analyses - failure of serial dilution

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TABLE 7-7 (Continued)

Completeness Summary
M03A Treated Water
Metals Analyses

SAMPLE DATE SET NUMBER	M03A0296 thru M03A0305	PROJECT GOAL
---------------------------	---------------------------	--------------

ANALYTE: ARSENIC

MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

ANALYTE: SELENIUM

MS Accuracy	100	95
DUP Precision/Difference	100	95
No Matrix Interference*	100	NA
Prep Blank Check	100	100
Lab Control Spike Check	100	100

W - All samples waived due to low response

* Matrix interference is indicated by:

Furnace analyses - failure of analytical spike or low MSA coefficient
ICP analyses - failure of serial dilution

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French Ltd. Project
FLTG. Incorporated

TABLE 7-8

Completeness Summary
M03A Treated Water
Miscellaneous Parameters Analyses

SAMPLE DATE SET NUMBER	M03A0296 thru M03A0305	Project to Date	PROJECT GOAL
PARAMETER: TOC			
Analysis Hold Time	100	100	100
MS Accuracy	100	100	NA
DUP Precision	100	100	NA
PARAMETER: OILS			
Analysis Hold Time	100	100	100
MS Accuracy	100	100	NA
DUP Precision	100	100	NA
PARAMETER: TSS			
Analysis Hold Time	100	100	100
MS Accuracy	NA	NA	NA
DUP Precision	100	100	NA

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MONTHLY PROGRESS REPORT
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French Ltd. Project
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Attachment 7-A

**Analytical Results
of
Double Blind Spike Samples**

Submitted to:

**American Analytical and Technical Services
Baton Rouge, Louisiana**

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Analytical QA/QC
Blind Spike Samples

French Ltd. Project
FLTG, Incorporated

R-1A

	Detected compounds	Result	Qual.	Acceptance Levels	
				Low	High
VOA	Vinyl Chloride	3	J	2.24	3.36
	Methylene Chloride	6			
	1,1-Dichloroethene	2	J		
	1,2-Dichloroethene (total)	4	J		
	Chloroform	29		24	36
	1,2-Dichloroethane	5		4.2	6.8
	Carbon Tetrachloride	3	J		
	Bromodichloromethane	19			
	1,2-Dichloropropane	2	J		
	Trichloroethene	3	J	2.33	3.5
	Dibromochloromethane	15			
	1,1,2-Trichloroethane	3	J		
	Benzene	2	J	1.58	2.36
	Bromoform	28			
	Tetrachloroethene	3	J		
	Toluene	4	J	3.26	4.88
	Chlorobenzene	5			
	Ethylbenzene	1	J		
	Styrene	3	J		
	Xylene (total)	13			
BNA	Phenol	13		2.08	24.7
	Naphthalene	14		7.59	22.6
	Acenaphthene	12		7.14	21.6
	Pentachlorophenol	9	J	6.27	25.3
	bis(2-ethylhexyl)phthalate	19	B	11.7	38.8
	Benzo(a)pyrene	13		10.1	24.9
MET	Aluminum	175			
	Arsenic	5.8		4.57	7.2
	Barium	15	B		
	Beryllium	8.7			
	Cadmium	12.1			
	Calcium	1000	B		
	Chromium	5.7			
	Copper	30.2		22.8	32.8
	Iron	25.8	B		
	Lead	7.4		5.2	8.67
	Magnesium	22.8	B		
	Manganese	12.2			
	Mercury	0.57			
	Nickel	18.3	B		
	Potassium	69.9	B		
	Selenium	12.4		9.37	14.8
	Silver	4.4	B	3.43	4.93
	Sodium	428	B		
	Thallium	6.8			
	Zinc	8.5	B	2.97	4.23

All values in ug/L (ppb).

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Analytical QA/QC
Blind Spike Samples

French Ltd. Project
FLTG, Incorporated

R-1B

	Detected compounds	Result	Qual.	Acceptance Levels	
				Low	High
VOA	Vinyl Chloride	8	J	5.6	8.4
	Methylene Chloride	5		4.18	6.26
	1,1-Dichloroethene	6		5.62	8.44
	1,2-Dichloroethene (total)	13		10	15
	Chloroform	82		60.1	90.1
	1,2-Dichloroethane	14		10.5	15.7
	1,1,1-Trichloroethane	4		3.3	4.96
	Carbon Tetrachloride	8		7.92	11.9
	Bromodichloromethane	53		36.6	54.8
	1,2-Dichloropropane	5		3.64	5.46
	Trichloroethene	7		5.82	8.74
	Dibromochloromethane	40		29.6	44.4
	1,1,2-Trichloroethane	7		5.2	7.8
	Benzene	5		3.94	5.9
	Bromoform	68		51	76.6
	Tetrachloroethene	9		8.8	13.2
	Toluene	10		8.16	12.2
	Chlorobenzene	12	J	9.6	14.4
	Ethylbenzene	3		2.55	3.83
BNA	Styrene	8	J	6.37	9.55
	Xylene (total)	34		28.5	42.6
	Phenol	28	B	4.07	48.3
	Naphthalene	30		15.6	46.4
	Acenaphthene	32		14.6	44.5
	Pentachlorophenol	33		12.5	50.6
MET	bis(2-ethylhexyl)phthalate	45	B	23.3	77.6
	Benzo(a)pyrene	26		20.2	49.8
	Aluminum	153	B	9.13	14.4
	Arsenic	12.4		45.5	65.5
	Barium	28.9		10.4	17.3
	Beryllium	17.8		18.7	29.5
	Cadmium	26.1		6.87	9.87
	Calcium	2000		5.93	8.47
	Chromium	11.3			
	Copper	60.1			
	Iron	23.3			
	Lead	15.3			
	Magnesium	21.9			
	Manganese	24.2			
	Mercury	1.4			
	Nickel	32.3			
	Potassium	49.9			
	Selenium	24.8			
	Silver	7.9			
	Sodium	396			
	Thallium	12.2			
	Zinc	27			

All values in ug/L (ppb).

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ENVIRONMENTAL
RESOURCE ASSOCIATES
Arvada, Colorado 80002 303-431-8454



Certification

French Limited Project
Custom Standard – Lot# 0103-95-07

Volatiles #R1-A

<u>Parameter</u>	<u>Certified Value ($\mu\text{g/L}$)</u>	<u>Performance Acceptance Limits TM ($\mu\text{g/L}$)</u>
Benzene	1.97	1.58 - 2.36
Chloroform	30.0	24.0 - 36.0
1,2-Dichloroethane	5.24	4.20 - 6.28
Toluene	4.08	3.26 - 4.88
Trichloroethylene	2.91	2.33 - 3.50
Vinyl chloride	2.80	2.24 - 3.36

Metals #R1-A

<u>Parameter</u>	<u>Certified Value ($\mu\text{g/L}$)</u>	<u>Performance Acceptance Limits TM ($\mu\text{g/L}$)</u>
Arsenic	6.10	4.57 - 7.20
Copper	27.8	22.8 - 32.8
Lead	6.93	5.20 - 8.67
Selenium	12.5	9.37 - 14.8
Silver	4.17	3.43 - 4.93
Zinc	3.60	2.97 - 4.23

Metals #R1-B

<u>Parameter</u>	<u>Certified Value ($\mu\text{g/L}$)</u>	<u>Performance Acceptance Limits TM ($\mu\text{g/L}$)</u>
Arsenic	12.2	9.13 - 14.4
Copper	55.5	45.5 - 65.5
Lead	13.9	10.4 - 17.3
Selenium	25.0	18.7 - 29.5
Silver	8.33	6.87 - 9.87
Zinc	7.20	5.93 - 8.47

Performance Acceptance Limits (PALsTM) are listed as guidelines for acceptable analytical results given the limitations of the USEPA methodologies commonly used to determine these parameters and closely approximate the 95% confidence interval. The PALsTM are based on analytical verification data generated by ERA, independent referee laboratory results and data from USEPA methods, WP, WS and CLP interlaboratory studies. If your result falls outside of the PALTM, ERA recommends that you investigate potential sources of error in your preparation and/or analytical procedures. For further technical assistance, call ERA at 1-800-372-0122.

Prepared by: JB

Reviewed by: JLG

Date: 11/11/95

Date: 11/11/95



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ENVIRONMENTAL
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Certification

French Limited Project
Lot # 0103-95-07

Semivolatiles - Low Level

SAMPLE #R1-A

<u>Parameter</u>	<u>Certified Value ($\mu\text{g/L}$)</u>	<u>Performance Acceptance LimitsTM ($\mu\text{g/L}$)</u>
Acenaphthene	19.5	7.14-21.6
Benzo(a)pyrene	20.1	10.1-24.9
bis(2-Ethylhexyl)phthalate	30.3	11.7-38.8
Naphthalene	19.5	7.59-22.6
Pentachlorophenol	20.1	6.27-25.3
Phenol	20.4	2.08-24.7

Standard Preparation Instructions: None. The standard is ready for preparation and analysis as received.

Preservative: None

Storage: Store at 4°C.

Performance Acceptance Limits (PALsTM) are listed as guidelines for acceptable analytical results given the limitations of the USEPA methodologies commonly used to determine these parameters and closely approximate the 95% confidence interval. The PALsTM are based on analytical verification data generated by ERA, independent referee laboratory results and data from USEPA methods, WP, WS and CLP interlaboratory studies. If your result falls outside of the PALTM, ERA recommends that you investigate potential sources of error in your preparation and/or analytical procedures. For further technical assistance, call ERA at 1-800-372-0122.

Prepared By: MEB

Reviewed By: JJC

Date: 1/8/95

Date: 1/9/95



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Certification

French Limited Project
Lot # 0103-95-07

Semivolatiles - High Level

SAMPLE #R1-B

<u>Parameter</u>	<u>Certified Value ($\mu\text{g/L}$)</u>	<u>Performance Acceptance Limits™ ($\mu\text{g/L}$)</u>
Acenaphthene	40.1	14.6-44.5
Benzo(a)pyrene	40.2	20.2-49.8
bis(2-Ethylhexyl)phthalate	60.6	23.3-77.6
Naphthalene	40.0	15.6-46.4
Pentachlorophenol	40.2	12.5-50.6
Phenol	39.9	4.07-48.3

Standard Preparation Instructions: None. The standard is ready for preparation and analysis as received.

Preservative: None

Storage: Store at 4°C.

Performance Acceptance Limits (PALs™) are listed as guidelines for acceptable analytical results given the limitations of the USEPA methodologies commonly used to determine these parameters and closely approximate the 95% confidence interval. The PALs™ are based on analytical verification data generated by ERA, independent referee laboratory results and data from USEPA methods, WP, WS and CLP interlaboratory studies. If your result falls outside of the PAL™, ERA recommends that you investigate potential sources of error in your preparation and/or analytical procedures. For further technical assistance, call ERA at 1-800-372-0122.

Prepared By: MES

Reviewed By: JCC

Date: 1/8/95

Date: 1/9/95



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**ENVIRONMENTAL
RESOURCE ASSOCIATES**
Arvada, Colorado 80002 303-431-8454



Certification PotableWatR™ Quality Control Standards

Organics - Page 1 of 2

Lot NO. 3208

Parameter	Certified Value	Performance Acceptance Limits™ ug/l
Regulated Volatiles PotableWatR™	ug/l	
Benzene	4.92	3.94 - 5.90
Carbon tetrachloride	9.90	7.92 - 11.9
Chlorobenzene	12.0	9.60 - 14.4
1,2-Dichlorobenzene	6.83	5.54 - 8.32
1,4-Dichlorobenzene	5.62	4.50 - 6.74
1,2-Dichloroethane	13.1	10.5 - 15.7
1,1-Dichloroethylene	7.03	5.62 - 8.44
cis-1,2-Dichloroethylene	6.44	5.15 - 7.73
trans-1,2-Dichloroethylene	6.09	4.87 - 7.31
1,2-Dichloropropane	4.55	3.64 - 5.46
Ethylbenzene	3.19	2.55 - 3.83
Methylene chloride	5.22	4.18 - 6.26
Styrene	7.96	6.37 - 8.55
Tetrachloroethylene	11.0	8.80 - 13.2
Toluene	10.2	8.16 - 12.2
1,2,4-Trichlorobenzene	9.48	7.58 - 11.4
1,1,1-Trichloroethane	4.13	3.30 - 4.96
1,1,2-Trichloroethane	6.50	5.20 - 7.80
Trichloroethylene	7.28	5.82 - 8.74
Vinyl chloride	7.00	6.60 - 8.40
o-Xylene	17.2	13.8 - 20.6
m-Xylene	3.18	2.54 - 3.82
p-Xylene	15.2	12.2 - 18.2
Halomethanes PotableWatR™		
Bromodichloromethane	45.7	36.6 - 54.8
Bromoform	63.8	51.0 - 76.6
Chlorodibromomethane	37.0	29.6 - 44.4
Chloroform	75.1	60.1 - 90.1
EDB/DBCP PotableWatR™		
Ethylene dibromide (EDB)	0.952	0.571 - 1.33
Dibromochloropropane (DBCP)	3.96	2.33 - 5.54
Pesticides/Herbicides PotableWatR™		
Aalachlor	1.01	0.856 - 1.46
Atrazine	4.28	2.34 - 6.18
gamma-BHC (Lindane)	5.52	3.04 - 8.00
2,4-D	6.43	4.22 - 12.6
Dalapon	3.15	1.29 - 4.28
Dinoseb	7.01	1.75 - 8.83
Endrin	1.49	1.04 - 1.94
Heptachlor	2.51	1.38 - 3.84
Heptachlor epoxide	8.41	4.63 - 12.2
Hexachlorobenzene	6.45	3.00 - 7.90
Hexachlorocyclopentadiene	3.92	2.16 - 5.68
Methoxychlor	6.09	3.35 - 8.83
Pendachlorophenol	1.34	0.670 - 2.01
Picloram	2.62	1.49 - 3.77
Simazine	9.77	7.23 - 12.1
2,4,5-TP (Silvex)	3.85	1.93 - 5.78

The Certified Values are equal to 100% of the parameters in the indicated standard.

The Performance Acceptance Limits (PALs™) are listed as guidelines for acceptable analytical results given the limitations of the USEPA methodologies commonly used to determine these parameters and closely approximate the 95% confidence interval. The PALs™ are based on the regulated acceptance limits as published by the EPA in the Federal Registry or by data generated by your peer laboratories in ERA's InterLab™ program using the same samples you are analyzing and data from USEPA methods, WP, WS and CLP interlaboratory studies. If your result falls outside of the PALs™, ERA recommends that you investigate potential sources of error in your preparation and/or analytical procedures. For further technical assistance, call ERA at 1-800-372-0122.



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ENVIRONMENTAL
RESOURCE ASSOCIATES

Interlaboratory Analytical Data - PotableWatR™

Organics - Page 1 of 2

Lot NO. 3208

Parameter	Certified Value	Mean Recovery	Mean Recovery (%)	n
Regulated Volatiles PotableWatR™				
Benzene	4.92	4.79	97.3%	4
Carbon tetrachloride	9.90	9.76	98.5%	4
Chlorobenzene	12.0	11.8	97.9%	4
1,2-Dichlorobenzene	6.93	6.98	101%	4
1,4-Dichlorobenzene	5.62	5.09	90.6%	4
1,2-Dichloroethane	13.1	13.0	99.0%	4
1,1-Dichloroethylene	7.03	6.92	98.4%	4
cis-1,2-Dichloroethylene	6.44	6.00	93.2%	4
trans-1,2-Dichloroethylene	6.09	6.29	103%	4
1,2-Dichloropropane	4.55	4.42	97.2%	4
Ethylbenzene	3.19	3.06	95.8%	4
Methylene chloride	5.22	6.05	116%	4
Styrene	7.96	7.96	100%	3
Tetrachloroethylene	11.0	10.4	94.2%	4
Toluene	10.2	9.36	91.7%	4
1,2,4-Trichlorobenzene	9.48	8.46	89.2%	4
1,1,1-Trichloroethane	4.13	4.13	99.9%	3
1,1,2-Trichloroethane	6.50	6.82	105%	4
Trichloroethylene	7.28	7.13	98.0%	4
Vinyl chloride	7.00	7.75	111%	4
o-Xylene	17.2	see 2.		
m-Xylene	3.18	see 2.		
p-Xylene	15.2	see 2.		
Xylenes, total	35.6	33.4	93.7%	3
Halomethanes PotableWatR™				
Bromodichloromethane	45.7	49.4	108%	6
Bromoform	63.8	62.9	98.6%	7
Chlorodibromomethane	37.0	40.3	109%	7
Chloroform	75.1	82.5	110%	7
EDB/DBCP PotableWatR™				
Ethylene dibromide (EDB)	0.952	0.920	96.6%	6
Dibromochloropropane (DBCP)	3.96	3.98	101%	6
Pesticides/Herbicides PotableWatR™				
Aalachlor	1.01	1.03	102%	4
Atrazine	4.26	4.70	110%	1
gamma-BHC (Lindane)	5.52	5.04	91.3%	5
2,4-D	8.43	8.28	110%	5
Dalapon	3.15	2.90	91.9%	4
Dinoseb	7.01	6.99	85.5%	5
Endrin	1.49	1.57	105%	5
Heptachlor	2.51	2.34	93.1%	5
Heptachlor epoxide	8.41	7.70	91.5%	5
Hexachlorobenzene	8.45	4.80	55.1%	1
Hexachlorocyclopentadiene	3.92	4.23	108%	3
Methoxychlor	6.09	6.40	105%	5
Pentachlorophenol	1.34	1.56	117%	5
Picloram	2.62	2.90	111%	5
Simazine	9.77	10.3	105%	3
2,4,5-TP (Silvex)	3.85	4.49	117%	5

(1) ERA's PotableWatR™ standards are analytically verified by direct injection of the standard onto a GC. The Interlaboratory Analytical Data Summary illustrates typical recoveries obtained by laboratories using EPA methodologies.

(2) Xylene analyzed as total xylenes in study.

(3) Compound not analyzed in study.

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NIST Traceability Summary - Organic PotableWatR™

ERA PROJECT
#0103-95-07SAMPLE
#R1-B VOA

Parameter	Lot No. 3208 NIST SRM Number	Traceability Recovery (%)
Regulated Volatiles PotableWatR™		
Benzene	SRM 1586	105%
Carbon tetrachloride	SRM 1639	102%
Chlorobenzene	SRM 1586	105%
1,2-Dichlorobenzene	NIST SRM not available	
1,4-Dichlorobenzene	NIST SRM not available	
1,2-Dichloroethane	NIST SRM not available	
1,1-Dichloroethylene	NIST SRM not available	
cis-1,2-Dichloroethylene	NIST SRM not available	
trans-1,2-Dichloroethylene	NIST SRM not available	
1,2-Dichloropropane	NIST SRM not available	
Ethylbenzene	NIST SRM not available	
Methylene chloride	NIST SRM not available	
Styrene	NIST SRM not available	
Tetrachloroethylene	SRM 1639	99.2%
Toluene	NIST SRM not available	
1,2,4-Trichlorobenzene	NIST SRM not available	
1,1,1-Trichloroethane	NIST SRM not available	
1,1,2-Trichloroethane	NIST SRM not available	
Trichloroethylene	SRM 1639	98.9%
Vinyl chloride	NIST SRM not available	
o-Xylene	NIST SRM not available	
m-Xylene	NIST SRM not available	
p-Xylene	NIST SRM not available	
Halomethanes PotableWatR™		
Bromodichloromethane	SRM 1639	100%
Bromoform	SRM 1639	101%
Chloroform	SRM 1639	100%
Dibromochloromethane	SRM 1639	96.6%
EDB/DBCP PotableWatR™		
Ethylene dibromide	NIST SRM not available	
Dibromochloropropane	NIST SRM not available	
Pesticides/Herbicides PotableWatR™		
Aalachlor	NIST SRM not available	
Atrazine	NIST SRM not available	
gamma-BHC (Lindane)	SRM 2261	
2,4-D	NIST SRM not available	101%
Dalapon	NIST SRM not available	
Dinoseb	NIST SRM not available	
Endrin	NIST SRM not available	
Heptachlor	SRM 2261	98.8%
Heptachlor epoxide	SRM 2261	91.9%
Hexachlorobenzene	SRM 2261	100%
Hexachlorocyclopentadiene	NIST SRM not available	
Methoxychlor	NIST SRM not available	
Pentachlorophenol	SRM 1584	108%
Picloram	NIST SRM not available	
Simazine	NIST SRM not available	
2,4,5-TP (Silvex)	NIST SRM not available	
Toxaphene PotableWatR™		
Chlordane PotableWatR™	NIST SRM not available	
Carbamate/Carbamoxylloxime PotableWatR™		
Aldicarb	NIST SRM not available	
Aldicarb sulfoxide	NIST SRM not available	
Aldicarb sulfone	NIST SRM not available	
Carbaryl	NIST SRM not available	
Carbofuran	NIST SRM not available	
Methomyl	NIST SRM not available	
Oxamyl	NIST SRM not available	

(1) Traceability Recovery (%) = [(% recovery certified standard) / (% recovery NIST SRM)] * 100.

(2) Traceability data are provided to demonstrate traceability only and do not reflect analytical verification of ERA standards. The analytical verification data summary for these standards is included on a separate page.

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MONTHLY PROGRESS REPORT
Site Maintenance

French Ltd. Project
FLTG, Incorporated

8.0 SITE MAINTENANCE

8.1 Summary of Activities

8.1.1 General Housekeeping

The site safety and housekeeping inspections and responses kept grounds safe and attractive for employees and visitors.

8.1.2 Purchasing

All purchases were covered by written requisitions and purchase orders. Purchase of chemicals is now reduced to groundwater treatment and insitu remediation.

8.1.3 Equipment Maintenance

Routine preventive and production maintenance was performed on all equipment.

8.2 Visitors

The following visitors were recorded at the site during February:

February 1: Ricky Creel, NAI

February 8: Rick Wade, TPS
Stephanie Hrabar, GEMS²
Warren Franz, ARGO Expl.

February 9: (b) (6) resident

February 14: Harless Bentul, Gilpin, Paxson & Bersch
Mary Wilson, Gilpin, Paxson & Bersch

February 16: John Villanacci, TDH

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MONTHLY PROGRESS REPORT
Site Maintenance

French Ltd. Project
FLTG, Incorporated

(b) (6) resident

- February 17: Ted Davis, Alliance
- February 21: Steve Bates, Bates Chemical
- February 23: Stephanie Hrabar, GEMS²
Bernice D. Owens, Green Bayou Clean-Up
Manuel Ruiz, Stapp Towing
Lee Hanzik, Hanzik Hyd.
Allen Hanzik, Hansik Hyd.
Mason D. Tucker, Stapp Towing Co.
Al Goodlow, Barrett Chamber of Commerce
John David, Barrett Chamber of Commerce
- February 28: Dick Woodward, Sierra

8.3 Emergency Equipment

8.3.1 Flood Gate Test

The flood gate was exercised on February 18, 1995, with one small leak detected at the striker seal.

8.3.2 P-8 Auxiliary Pump

P-8 Auxiliary Pump has been converted to the lagoon ground cover vegetation sprinkler source. It has operated approximately 120 hours in February.

8.3.3 Fire Extinguishers

All fire extinguishers were inspected and certified.

8.4 Security

Smith Security provides 24-hour security at the FLTG site, including the south side of Gulf Pump Road; all site areas are checked hourly. No incidents reported by Security in

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**MONTHLY PROGRESS REPORT
Site Maintenance**

**French Ltd. Project
FLTG, Incorporated**

February.

8.5 Operator Training

All training is documented and records are maintained on site.

8.6 Data Management

Data base is fully operational. Data is entered on a daily basis.

8.7 Personnel Monitoring

Results of personnel monitoring conducted during February are included in Table 8-1.

8.8 OVM System

The new meteorological station was placed on-line January 25th and is now operational. Data is generated on a weekly basis.

Work areas are being monitored daily with Organic Vapor Monitor 580A.

8.9 Repository

Records from the February review are listed in Attachment 8A.

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MONTHLY PROGRESS REPORT
Site Maintenance

French Ltd. Project
FLTG, Incorporated

TABLE 8-1

On-Site Employee Contaminant Limits
(From OSHA 29 CFR 1910 Subpart Z)

Compound	PEL 8 hour PPM	MO1D005101 9-Feb-95 WTP Operator		MO1D005102 9-Feb-95 Well Maintenance		MO1D005103 9-Feb-95 Security	
		% of PEL	PPM	% of PEL	PPM	% of PEL	PPM
Chloromethane	50	0.000	0.000	0.000	0.000	0.000	0.000
Bromomethane	5	0.000	0.000	0.000	0.000	0.000	0.000
Vinyl chloride	1	0.000	0.000	0.000	0.000	0.003	0.000
Chloroethane	1000	0.000	0.000	0.000	0.000	0.000	0.000
Dichloromethane	50	0.001	0.000	0.000	0.000	0.000	0.000
Acetone	750	0.001	0.007	0.000	0.002	0.001	0.006
Carbon disulfide	10	0.000	0.000	0.000	0.000	0.000	0.000
1,1-Dichloroethene	5	0.020	0.001	0.000	0.000	0.000	0.000
1,1-Dichloroethane	100	0.000	0.000	0.000	0.000	0.000	0.000
trans-1,2-Dichloroethene	200	0.000	0.000	0.000	0.000	0.000	0.000
Chloroform	10	0.000	0.000	0.005	0.000	0.006	0.001
1,2-Dichloroethane	10	0.000	0.000	0.001	0.000	0.001	0.000
2-Butanone	200	0.000	0.000	0.000	0.000	0.002	0.004
1,1,1-Trichloroethane	350	0.007	0.023	0.000	0.000	0.000	0.000
Carbon Tetrachloride	5	0.001	0.000	0.003	0.000	0.003	0.000
Vinyl acetate	10	0.000	0.000	0.000	0.000	0.000	0.000
Bromodichloromethane			0.000		0.000		0.000
1,2-Dichloropropane	75	0.000	0.000	0.000	0.000	0.000	0.000
cis-1,3-Dichloropropene	1	0.000	0.000	0.000	0.000	0.000	0.000
Trichloroethene	50	0.000	0.000	0.000	0.000	0.000	0.000
Dibromochloromethane			0.000		0.000		0.000
1,1,2-Trichloroethane	10	0.000	0.000	0.000	0.000	0.002	0.000
Benzene	1	0.016	0.000	0.080	0.001	0.169	0.002
trans-1,3-Dichloropropene	1	0.000	0.000	0.000	0.000	0.000	0.000
2-Chloroethylvinyl ether			0.000		0.000		0.000
Bromoform	0.5	0.000	0.000	0.000	0.000	0.000	0.000
4-Methyl-2-pentanone	50	0.000	0.000	0.000	0.000	0.001	0.000
2-Hexanone	5	0.000	0.000	0.004	0.000	0.001	0.000
Tetrachloroethene	50	0.000	0.000	0.000	0.000	0.000	0.000
1,1,2,2-Tetrachloroethene	1	0.000	0.000	0.000	0.000	0.000	0.000
Toluene	100	0.001	0.001	0.003	0.003	0.004	0.004
Chlorobenzene	10	0.000	0.000	0.000	0.000	0.000	0.000
Ethylbenzene	100	0.000	0.000	0.000	0.000	0.000	0.000
Styrene	50	0.000	0.000	0.000	0.000	0.000	0.000
Xylene (total)	100	0.000	0.000	0.000	0.000	0.000	0.000
Hexane			0.001		0.001		0.002

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MONTHLY PROGRESS REPORT
Site Maintenance

French Ltd. Project
FLTG, Incorporated

ATTACHMENT 8A

Repository Status Report: February, 1995

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MONTHLY PROGRESS REPORT
Site Maintenance

French Ltd. Project
FLTG, Incorporated

REPOSITORY STATUS REPORT: February, 1995

At the Rice University Library...

1. Remedial Investigation Report April, 1985
2. Remedial Investigation Report Appendices, Volume II, April, 1985
3. Remedial Investigation Report June, 1986 (Updated from April, 1985)
4. Remedial Investigation Report Appendices, Volume I, February, 1986 (Revised June, 86)
5. Remedial Investigation Report Appendices, Volume II, February, 1986 (Revised June, 1986)
6. Remedial Investigation Report Appendices, Volume III, February, 1986
7. 1986 Field Investigation and Supplemental Remedial Investigation Report Volume I, December, 1986
8. 1986 Field Investigation and Supplemental Remedial Investigation Report French Limited Site Volume II, Appendices December, 1986
9. 1986 Field Investigation Hydrology Report, December 19, 1986
10. Endangerment Assessment Report February, 1987
11. Endangerment Assessment Report April 1987 (Updated from February, 1987)
12. Feasibility Study Report, March 1987
13. In Situ Biodegradation Demonstration Report Volume I Executive Summary, October 30, 1987 Revised 11-11-87
14. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume I, November 30, 1987
15. In Situ Biodegradation Demonstration Report Volume II, October 30, 1987 (Revised February 1, 1988 at Site only)
16. In Situ Biodegradation Demonstration Supplemental Report French Limited Site Volume II, November 30, 1987 + Appendices

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18. In Situ Biodegradation Demonstration Report Volume III, Appendices, Supplemental Report, November 30, 1987
19. In Situ Biodegradation Demonstration Report French Limited Site, Volume IV October 30, 1987 + Appendices
20. In Situ Biodegradation Demonstration Supplemental Report French Limited Site, Volume IV November 30, 1987 + Appendices
21. In Situ Biodegradation Demonstration Report French Limited Site Volume V, October 30, 1987
22. In Situ Biodegradation Demonstration Report French Limited Site Volume V Appendices, November 30, 1987 - Supplemental Report
23. In Situ Biodegradation Demonstration Report French Limited Site Volume VI Appendices, October 30, 1987
24. In Situ Biodegradation Demonstration Report French Limited Site Volume VII Appendices, October 30, 1987
25. In Situ Biodegradation Demonstration Report French Limited Site Volume VIII Appendices, October 30, 1987
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28. In Situ Biodegradation Demonstration Report French Limited Site Volume XI Appendices, October 30, 1987
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 - 35. In Situ Biodegradation Demonstration Report French Limited Site Volume XVIII Appendices, October 30, 1987
 - 36. Proposed In Situ Biodegradation Demonstration French Limited Site Phase III, April, 1987
 - 37. In Situ Bioremediation Demonstration French Limited April, 1987 Monthly Report, Equipment Evaluation Phase IV
 - 38. In Situ Bioremediation Demonstration French Limited May, 1987 Monthly Report, Equipment Evaluation Phase IV
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52. Supplemental Biodegradation Equipment Evaluation French Limited Site - Phase IV, September 26, 1988
53. In Situ Biodegradation Demonstration Phase III Quality Assurance Project Plan for French Limited Site, March, 1987
54. Addendum to Quality Assurance Project Plan for the French Limited Site In Situ Biodegradation Demonstration Phase III, February 16, 1990
55. Site Safety and Health Plan French Limited Site - Phase III, April 1987 (Revision 2)
56. Remedial Action Plan Volume I - April, 1990
57. Remedial Action Plan Volume I - September, 1990 (Updated from April, 1990)
58. Remedial Action Plan Volume II Quality Assurance April, 1990
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Appendix A - Quality Assurance Sampling Procedures and
Appendix B - Analytical Methods - B.1 - B.53, September 22, 1989
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 - 63. Remedial Action Plan Volume V - Shallow Aquifer and Subsoil Remediation Process Design, May, 1990
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 - 64. Remedial Action Plan Volume V - Shallow Aquifer and Subsoil Remediation Process Design, July 20, 1990, (Updated from May, 1990)
 - 65. 1988 Equipment Evaluation Phase IV Report French Limited Site: Volume I, February 1, 1990
 - 66. 1988 Equipment Evaluation Phase IV Report French Limited Site: Volume II, February 1, 1990
 - 67. 1988 Slough Investigation Report French Limited Site, October 1988
 - 68. Ambient Air Impact Risk Assessment Report, May 5, 1989
 - 69. Workplan for the Shallow Aquifer Pumping Tests for the French Limited Site, July 22, 1988
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 - 70. French Limited Site Hurricane Gilbert Preparation Report, October, 1988
 - 71. Potable Water Well Installation Report French Limited Site, December 7, 1988
 - 72. Bioresidue Fixation Alternatives Evaluation Report French Limited Site March 20, 1989
 - 73. Hydrogeologic Characterization Report, March 1989
 - 74. Hydrogeologic Characterization Report - Appendices, March 1989
 - 75. San Jacinto River May 19, 1989 Flood Event Report, June 1989
 - 76. Post San Jacinto River May 1989 Flood Event Soils and Water Analysis Program - Volume I, August 16, 1989
 - 77. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program Volume II Appendix A

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78. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program Volume III Appendix A, August 16, 1989
79. Riverdale Lake Area Remediation Program August 15, 1989
80. Flood and Migration Control Wall Design Report, August 16, 1989
81. Flood and Migration Control Wall Design Report Appendix C Access Way Design, September, 1989
82. North Pit Remediation Report French Limited Site, November 6, 1989
83. Installation Report for Flood and Migration Control Wall, January 8, 1990
84. Installation Report for Flood and Migration Control Wall Appendix A - ENSR Site Logs
85. Installation Report for Flood and Migration Control Wall Appendix B - Inspection Reports
86. Installation Report for Flood and Migration Control Wall Appendix C - Pile Driving Inspection Report January 8, 1990
87. Flood Wall Gate Test Report French Limited Site, February 1990
88. French Limited Remediation Design Report - Executive Summary Bioremediation/Shallow Aquifer, July, 1991
89. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume I of III - Summary Report and Appendices A-H, July 1991
90. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume II of III - Appendices I-M, June 1991
91. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume III of III - Appendices N-P, June 1991
92. Bioremediation Facilities Design Report Volume II of IV Appendices, Reports and Calculations (March 20, 1991)
93. Bioremediation Facilities Design Report Volume III of IV Appendix E - Design Specifications (March 20, 1991)

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- 94. Bioremediation Facilities Design Report Volume IV of IV - Air Monitoring, March 20, 1991
 - 95. Public Health Assessment for French Limited March 30, 1993 from U.S. Department of Health and Human Services
 - 96. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 1, Report, Appendices A-E
 - 97. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 2, Appendix F
 - 98. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 3, Appendix F continued
 - 99. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 4, Appendix G
 - 100. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 5, Appendix H
 - 101. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 6, Appendix H continued
 - 102. Record of Public Meeting Regarding Remedial Investigation and Feasibility Study (5-21-87)
 - 103. Summary of Remedial Alternative Selection 1988
 - 104. Declaration for the Record of Decision 1988
 - 105. Record of Public Meeting Regarding Remedial Investigation and Feasibility Study (2-11-88) (Updated from June 21, 1987)
 - 106. Consent Decree between the Federal Government and the FLTG
 - 107. French Limited Superfund Site Community Relations Revised Plan August, 1989 - Jacob's Engineering
 - 108. Results of the French Limited Task Group Survey (Goldman and Company) April, 1987
 - 109. Goldman Public Relations Clipping Report

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110. BioGEE International, Inc., Project Report Biotreatability Study Using Isolated Indigenous Organisms, April, 1994
111. Field Evaluation of Biodegradation at the French Limited Site (Phase II) Volume I
112. Laboratory Evaluation of Biodegradation at the French Limited Site
113. French Limited Site Focused Feasibility Study (May 1987)
114. Annual Groundwater Monitoring Report, December 1993, Report and Appendices A-B
115. Annual Groundwater Monitoring Report, December 1993, Appendices C-H
116. DNAPL Study Remedial Alternative Selection and Feasibility Study Report, November 1994
117. Cell E and Cell D/F Remediation Verification Report
118. French Limited Wetlands Mitigation, Final Site Restoration Plan
119. French Limited Wetlands Mitigation, Site Selection Report
120. French Limited Wetlands Mitigation, 404 and 401 Permit Application, U.S. Army Corps of Engineers, Galveston, TX
121. Quality Assurance Report, February 15, 1993, Report No. QA93003
122. Quality Assurance Report, January 20, 1994, Report No. QA94001
123. Monthly Progress Report, January 1992
124. Monthly Progress Report, January, 1992 Appendices A-C
125. Monthly Progress Report, January, 1992 Appendices E, F
126. Monthly Progress Report, January, 1992 Appendices G
127. Monthly Progress Report, February, 1992
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130. Monthly Progress Report, February, 1992 Appendices D-E
131. Monthly Progress Report, March, 1992
132. Monthly Progress Report, March, 1992, Appendix A
133. Monthly Progress Report, April, 1992
134. Monthly Progress Report, April, 1992, Appendices A-B
135. Monthly Progress Report, May, 1992
136. Monthly Progress Report, May, 1992, Appendices A-B
137. Monthly Progress Report, June, 1992
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141. Monthly Progress Report, July 1992, Appendices B1-B22 Vol. 1 of 3
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145. Monthly Progress Report, August, 1992, Appendices A-B
146. Monthly Progress Report, September, 1992
147. Monthly Progress Report, September, 1992, Appendices A-B
148. Monthly Progress Report, October, 1992
149. Monthly Progress Report, October, 1992, Appendices A-B
150. Monthly Progress Report, November, 1992
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- 152. Monthly Progress Report, December, 1992
 - 153. Monthly Progress Report, December, 1992 Appendices A, B
 - 154. Monthly Progress Report, January, 1993
 - 155. Monthly Progress Report, February, 1993
 - 156. Monthly Progress Report, March, 1993
 - 157. Monthly Progress Report, April, 1993
 - 158. Monthly Progress Report, May, 1993
 - 159. Monthly Progress Report, June, 1993
 - 160. Monthly Progress Report, July, 1993
 - 161. Monthly Progress Report, August, 1993
 - 162. Monthly Progress Report, September, 1993
 - 163. Monthly Progress Report, October, 1993
 - 164. Monthly Progress Report, November, 1993
 - 165. Monthly Progress Report, December, 1993
 - 166. Monthly Progress Report, January, 1994
 - 167. Monthly Progress Report, February, 1994
 - 168. Monthly Progress Report, March, 1994
 - 169. Monthly Progress Report, April, 1994
 - 170. Monthly Progress Report, May, 1994
 - 171. Monthly Progress Report, June, 1994
 - 172. Monthly Progress Report, July, 1994
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- 174. Monthly Progress Report, September, 1994
- 175. Monthly Progress Report, October, 1994
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- 177. Monthly Progress Report, December, 1994
- 178. Monthly Progress Report, January, 1995

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1. Remedial Investigation Report - June, 1986
2. Remedial Investigation Appendices Volume I June, 1986 Revised from Feb. 1986
3. Remedial Investigation Appendices Volume II June, 1986 Revised from Feb. 1986
4. Remedial Investigation Appendices Volume III February, 1986
 - Pages 1 and 2 of 10 Res. Engr Tab Missing
 - Analytical Report Worksheet 7-8-9-10 Missing
 - Pages 1 and 2 of 6 Missing
 - Tab 9 H 1-8 Missing, H 11-19 Missing, Page 1 of 10 Missing
 - Page 3 Worksheet Missing
 - Tab 10 H 1-3 Missing, Page 3-6 of 6 Missing, Page 1-6 Missing
 - Tab 12 Page 2-10 of 10 Missing
5. 1986 Field Investigation and Supplemental Remedial Investigation Report Volume I, December, 1986
6. 1986 Field Investigation and Supplemental Remedial Investigation Report Volume II, Appendices, December 1986
7. 1986 Field Investigation Hydrology Report, December 19, 1986
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11. Endangerment Assessment Report February 1987
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21. Results of the French Limited Task Group Survey (Goldman and Company)
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32. Remedial Action Plan Volume II - Appendix A - Quality Assurance Sampling Procedures and Appendix B - Analytical Methods - B.1 - B.53, September 28, 1990
33. Remedial Action Plan Volume III - Health and Safety, July 20, 1990
34. Remedial Action Plan Volume V - Shallow Aquifer and Subsoil Remediation Process Design, July 20, 1990
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36. Hydrogeologic Characterization Report, March 1989
37. Hydrogeologic Characterization Report Appendices, March 1989
38. Supplemental Biodegradation Equipment Evaluation French Limited Site - Phase IV, September 26, 1988
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41. Site Safety and Health Plan French Limited Site - Phase III, April 1987 (Revision 2)
42. San Jacinto River May 19, 1989 Flood Event Report, June 1989
43. Post San Jacinto River May 1989 Flood Event Soils and Water Analysis Program Volume I, August 16, 1989
44. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program Volume II, Appendix A
45. Post San Jacinto River 1989 Flood Event Soil and Water Analysis Program Volume III, Appendix A, August 16, 1989
46. 1988 Slough Investigation Report French Limited Site, October 1988
47. Flood and Migration Control Wall Design Report, August 16, 1989

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- 48. Flood and Migration Control Wall Design Report (Flood is spelled incorrectly on Volume Cover) + Appendix C - Access way Design September 1989
 - 49. Installation Report for Flood and Migration Control Wall January 8, 1990
 - 50. Installation Report for Flood and Migration Control Wall
Appendix A - ENSR Site Logs
 - 51. Installation Report for Flood and Migration Control Wall
Appendix B - Inspection Reports
 - 52. Installation Report for Flood and Migration Control Wall
Appendix C - Pile Driving Inspection Report January 8, 1990
 - 53. Flood Wall Gate Test Report French Limited Site, February 1990
 - 54. North Pit Remediation Report French Limited Site, November 6, 1989
 - 55. Workplan for the Shallow Aquifer Pumping Tests for the French Limited Site, July 22, 1988
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 - 56. French Limited Site Hurricane Gilbert Preparation Report October, 1988
 - 57. Riverdale Lake Area Remediation Program, August 15, 1989
 - 58. Addendum to Quality Assurance Project Plan for the French Limited Site In Situ Biodegradation Demonstration Phase III, February 16, 1990
 - 59. Potable Water Well Installation Report French Limited Site, December 7, 1988
 - 60. Bioresidue Fixation Alternatives Evaluation Report French Limited Site
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 - 61. Ambient Air Impact Risk Assessment Report, May 5, 1989
 - 62. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume I of III - Summary Report and Appendices A-H, July 1991
 - 63. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume II of III - Appendices I-M, June 1991
 - 64. Shallow Aquifer and Subsoil Remediation Facilities Design Report Volume III of III - Appendices N-P, June 1991
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65. French Ltd. Remediation Design Report Executive Summary
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66. BioGEE International, Inc., Project Report Biotreatability Study Using Isolated Indigenous Organisms, April 15, 1994
67. Black EPA Binder
68. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 1, Report, Appendices A-E
69. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 2, Appendix F
70. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 3 Appendix F continued
71. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 4, Appendix G
72. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 5, Appendix H
73. CH2M Hill, Cell E Verification Remediation Report, May 1993, Volume 6, Appendix H continued
74. Equipment Evaluation Phase IV Report November, 1987 Monthly Report
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76. Microfiche Field Reports 1988 -small box
77. Annual Groundwater Monitoring Report, December 1993, Report and Appendices A-B
78. Annual Groundwater Monitoring Report, December 1993, Appendices C-H
79. DNAPL Study Remedial Alternative Selection and Feasibility Study Report, November 1994
80. Cell E and Cell D/F Remediation Verification Report
81. French Limited Wetlands Mitigation, Final Site Restoration Plan

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- 82. French Limited Wetlands Mitigation, Site Selection Report
 - 83. French Limited Wetlands Mitigation, 404 and 401 Permit Application, U.S. Army Corps of Engineers, Galveston, TX
 - 84. Quality Assurance Report, February 15, 1993, Report No. QA93003
 - 85. Quality Assurance Report, January 20, 1994, Report No. QA94001
 - 86. Environmental Protection Agency, Region VI, Hazardous Waste Management Division, First Five Year Review (Type Ia), CERCLIS TXD-980514814, December 1994
 - 87. Monthly Progress Report, January, 1992
 - 88. Monthly Progress Report, January, 1992, Appendices A-C
 - 89. Monthly Progress Report, January, 1992, Appendices E-F
 - 90. Monthly Progress Report, January, 1992, Appendix G
 - 91. Monthly Progress Report, February, 1992
 - 92. Monthly Progress Report, February, 1992, Appendices A-B
 - 93. Monthly Progress Report, February, 1992, Appendices C-1, C-2
 - 94. Monthly Progress Report, February, 1992 , Appendices D-E
 - 95. Monthly Progress Report, March, 1992
 - 96. Monthly Progress Report, March, 1992, Appendix A
 - 97. Monthly Progress Report, April, 1992
 - 98. Monthly Progress Report, April, 1992, Appendices A-B
 - 99. Monthly Progress Report, May, 1992
 - 100. Monthly Progress Report, May, 1992, Appendices A-B
 - 101. Monthly Progress Report, June, 1992
 - 102. Monthly Progress Report, June, 1992, Appendices A-B

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- 103. Monthly Progress Report, July, 1992
 - 104. Monthly Progress Report, July, 1992, Appendices A-B
 - 105. Monthly Progress Report, July, 1992, Appendices B1-B22 Vol. 1 of 3
 - 106. Monthly Progress Report, July, 1992, Appendices B1-B22 Vol. 2 of 3
 - 107. Monthly Progress Report, July, 1992, Appendices B1-B22 Vol. 3 of 3
 - 108. Monthly Progress Report, August, 1992
 - 109. Monthly Progress Report, August, 1992, Appendices A-B
 - 110. Monthly Progress Report, September, 1992
 - 111. Monthly Progress Report, September, 1992, Appendices A-B
 - 112. Monthly Progress Report, October, 1992
 - 113. Monthly Progress Report, October, 1992, Appendices A-B
 - 114. Monthly Progress Report, November, 1992
 - 115. Monthly Progress Report, November, 1992, Appendices A-B
 - 116. Monthly Progress Report, December, 1992
 - 117. Monthly Progress Report, December, 1992, Appendices A-B
 - 118. Monthly Progress Report, January, 1993
 - 119. Monthly Progress Report, February, 1993
 - 120. Monthly Progress Report, March, 1993
 - 121. Monthly Progress Report, April, 1993
 - 122. Monthly Progress Report, May, 1993
 - 123. Monthly Progress Report, June, 1993
 - 124. Monthly Progress Report, July, 1993

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- 125. Monthly Progress Report, August, 1993
 - 126. Monthly Progress Report, September, 1993
 - 127. Monthly Progress Report, October, 1993
 - 128. Monthly Progress Report, November, 1993
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 - 130. Monthly Progress Report, January, 1994
 - 131. Monthly Progress Report, February, 1994
 - 132. Monthly Progress Report, March, 1994
 - 133. Monthly Progress Report, April, 1994
 - 134. Monthly Progress Report, May, 1994
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 - 136. Monthly Progress Report, July, 1994
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 - 139. Monthly Progress Report, October, 1994
 - 140. Monthly Progress Report, November, 1994
 - 141. Monthly Progress Report, December, 1994
 - 142. Monthly Progress Report, January, 1995

12 Large Brown Folders:

- 1. Administrative Record Index - 2 folders
Administrative Record 09-26-79 thru 05-29-83
Administrative Record 06-03-83 thru 11-28-83
Administrative Record 02-28-84
Administrative Record 03-09-84

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Administrative Record 3-9-84

2. Administrative Record 08-31-84
Administrative Record 10-29-84 thru 01-22-85
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3. Administrative Record 02-04-85
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4. Administrative Record 04-08-85 thru 11-26-85
Administrative Record 02-14-86 thru 04-04-86
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1985 Field Investigation Report Appendices, January, 1986
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5. Administrative Record 04-01-86
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6. Administrative Record 4-1-86
7. Administrative Record 05-08-86 thru 05-12-86
Administrative Record 06-01-86
Administrative Record 01-05-87
Remedial Investigation Report, June 1986
Laboratory Evaluation of Biodegradation, 12-86
1986 Field Investigation Hydrology Report, 12-86
Endangerment Assessment Report, 2-87
8. Feasibility Study, March 1987
9. Administrative Report 03-11-87 thru 03-25-87
Administrative Report 4-1-87
Administrative Report 4-7-87
In Situ Biodegradation Demonstration Phase III QA Project Plan 3-87
Endangerment Assessment Report, 4-87
Proposed In Situ Biodegradation Demonstration French Limited Site Phase III 4-87
10. Administrative Report 4-15-87 thru 5-1-87

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French Limited Focused Feasibility Study, ERT 5-87
Revised Field Evaluation of Biodegradation at French Site Phase II Vol. I
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11. **Administrative Report 7-20-87 - 11-23-87**
Administrative Report Undated Documents 000122-000134
In Situ Biodegradation Demonstration Report Vol. I Executive Summary 10-87
French Limited Site Work Plan Vol. I Project Activities and Sample Plan

12. **Texas Air Control Board Regulations I thru IX**
Standard Exemption List
Application for Permit

During the month of February, the status of both libraries have been reviewed and the above information found to be accurate.



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Wetlands Restoration

French Ltd. Project
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9.0 WETLANDS RESTORATION

9.1 Summary of Activities and Progress

Conducted safety meetings at the start of each work shift; inspected all equipment for safety compliance each shift; used daily lottery ticket safety awareness program.

Updated site work plan based on field progress.

Revised flow channel location again to incorporate existing elevation features and to reduce the scope of the excavation work.

Continued excavation of flow channels; about 60% complete at end of month.

Completed final grading in some areas and applied topsoil.

Received lump sum bids for the three bridges; awarded the work to Remedial Construction; started excavation for the bridge construction.

Maintained site security to protect the public and project equipment.

Developed a site outline for re-vegetation; identified procedures for securing plant species.

Developed a public relations plan.

Reviewed the project status, progress, and issues with the agency review committee; the agencies are satisfied with site progress.

Some dewatering was required after each significant rainfall; frequent heavy rains delayed the excavation work on site; excavated about 50% of the flow channels.

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Wetlands Restoration

French Ltd. Project
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9.2 Problem Areas and Solutions

<u>Problem</u>	<u>Solution</u>
Trees in excavation area.	Transplant desirable trees to temporary nursery area; treat large trees with nutrients.
Water inflow to site.	Seal culverts; secure sewer lines and stormwater lines; regular pumping.
Safety awareness	Daily safety meeting; lottery ticket program; frequent equipment inspections.
Excavation in wet, soft areas.	Revise work schedule to allow drainage; pump water on "off" days.

9.3 Problems Resolved

None.

9.4 Deliverables Submitted

January, 1995, Monthly Report.

9.5 Upcoming Events and Activities

Daily safety program.

Continue civil work on site.

Replace topsoil and vegetate.

Contour site.

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MONTHLY PROGRESS REPORT
Wetlands Restoration

French Ltd. Project
FLTG, Incorporated

Develop detailed cost estimate for Brownwood.

Start re-vegetation.

Develop forecast of maintenance requirements.

Develop community relations plan.